

Southwest Service Area Redevelopment Program at Boston-Logan International Airport

East Boston, Massachusetts



SUBMITTED TO
Executive Office of Energy and Environmental Affairs
Massachusetts Environmental Policy Act Office

PREPARED BY
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IN ASSOCIATION WITH
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IN COOPERATION WITH
Federal Aviation Administration

MARCH 2010



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March 1, 2010

Secretary Ian A. Bowles
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

and

Alicia McDevitt, MEPA Director
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

Re: **Final Environmental Impact Report/Environmental Assessment**
Southwest Service Area Redevelopment Program at Boston-Logan International Airport East
Boston, Massachusetts
EEA No. 14137

Dear Secretary Bowles and Director McDevitt:

In accordance with the provisions of the Massachusetts Environmental Policy Act (MEPA) and its implementing regulations (specifically 301 CMR 11.10(1)), the Massachusetts Port Authority (Massport), is pleased to submit the enclosed Final Environmental Impact Report/Environmental Assessment ("Final EIR/EA") for the redevelopment of the Southwest Service Area ("SWSA") at Boston-Logan International Airport ("Logan Airport") [EEA No. 14137].

This Final EIR/EA is intended to: (i) address, where applicable, the outstanding issues associated with the review of the 2008 Draft EIR/EA; and (ii) further analyze and clarify the revised Program, as presented in the 2009 Notice of Project Change (NPC). This filing responds directly to the Certificate on the NPC, dated December 23, 2009. The document is also jointly filed as a Final Environmental Assessment (EA) in accordance with the requirements of the National Environmental Policy Act (NEPA).

Planning History

For more than 25 years, the SWSA has supported a variety of essential ground transportation services and facilities, including the taxi pool, seven separate rental car businesses, the bus/limousine pool, and a flight kitchen. Prior to this in the early 1970s there was aviation activity in portions of the SWSA. As described in annual Environmental Status and Planning Reports ("ESPRs") and annual Environmental Data Reports ("EDRs") dating back to 1993¹, Massport has been engaged in ongoing feasibility studies to replace and upgrade existing car rental and ground transportation facilities in the SWSA. In early 2006, Massport initiated a feasibility study for a consolidated rental car facility in

¹ ESPR and EDRs were called GEIRs in 1993.

the SWSA. The study examined program requirements, site layout and access alternatives, financing options, order-of-magnitude costs, and environmental benefits.

An Environmental Notification Form (“ENF”) for the project was filed on November 14, 2007, with the Executive Office of Energy and Environmental Affairs (“EEA”). On June 27, 2008, a Draft Environmental Impact Report/Environmental Assessment was submitted to EEA (the “2008 Draft EIR/EA”). Following the 2008 Draft EIR/EA, the SWSA program was re-evaluated by Massport and revised in light of long-term economic trends affecting airport operations and existing economic constraints on airport capital programs. As a result, the overall size and scale of the SWSA program was reduced by almost half. The commercial parking consolidation component of the proposed Garage Structure was removed, but the proposal to consolidate existing rental car operations into a single facility (the “ConRAC”) was maintained. This is consistent with the Purpose and Need as it would improve customer service at the Airport while making more efficient use of existing ground transportation infrastructure. The revised program was presented and analyzed in the Notice of Project Change filed on October 15, 2009 (the “2009 NPC”).

Program Summary

The main purpose of the SWSA Redevelopment Program continues to be consolidation of airport-related rental car operations and facilities into one integrated facility. The SWSA Redevelopment Program consists of the replacement of and upgrade to existing ground transportation uses within the SWSA, to be more efficient and customer-friendly through the development of a Leadership in Energy and Environmental Design (LEED®) certified, four-level, approximately 1.3 million square foot garage structure (the “Garage Structure”).

The following are the key components of the revised SWSA Redevelopment Program:

- A consolidated rental car garage structure with a Customer Service Center (“CSC”);
- Quick Turn Around (“QTA”) maintenance and service facilities;
- A consolidated rental car shuttle bus system combined with existing Massport bus routes that serve MBTA Airport Station and the airport terminals (the “Unified Bus System”);
- A retained, relocated and reconfigured Taxi Pool and Bus and Limousine Pool;
- Retained and relocated within the SWSA some of the long-term overflow commercial surface parking; and
- Improvements such as roadway and intersection modifications, pedestrian and bicycle facilities, and site landscaping including the Phase 2 SWSA Airport Edge Buffer.

It is anticipated that the Flight Kitchen will be demolished and its operations consolidated either to a vacant building on-airport in the North Service Area (NSA) or off-airport in 2011 (the end date of the current lease agreement) with or without the Program.

To minimize impact on the adjacent community and to continue to meet the sustainable and economic goals of the Program through the avoidance of mechanical ventilation of the Garage Structure, Massport has made substantial changes to the design of the Garage Structure, including the elimination of commercial parking, reduction of the height of the structure, shifting of the Garage Structure away from the community, addition of landscape buffer area, and extensive façade

treatments (including partial enclosure of the southern and western sides of the Garage Structure that face the community). Additionally, the SWSA Redevelopment Program would continue to implement sustainable planning, design (performance criteria) and improved environmental management techniques, including, but not limited to, energy and water efficient building systems (in compliance with the MA LEED Plus program and *MEPA Greenhouse Gas Emissions Policy and Protocol*).

Summary of Benefits

With preparatory actions expected to begin in mid-2010 and construction to be underway from 2011 through 2015, the SWSA Redevelopment Program will create a variety of jobs (engineering, fabrication, construction, and other trades) that will contribute to the Commonwealth's economic recovery.

As demonstrated in the 2009 NPC and by the revised analyses presented herein, the SWSA Program would result in no significant adverse environmental impacts. In fact, the Program would result in many environmental and operational benefits. Specifically, the SWSA Redevelopment Program would:

- Respond to the growth in rental car customer activity through enhanced, more efficient rental car facilities that better serve the traveling public;
- Reduce the need for the rental car operators to shuttle vehicles from off-airport storage locations, which results in less vehicle-miles-traveled (VMTs) and associated motor vehicle emissions (including mobile source GHG emissions) within the East Boston community, Route 1A, and adjacent neighborhoods.
- Reduce the rental car shuttle bus fleet size by 70 percent (approximately 94 rental car buses at peak time to approximately 28 vehicles at peak time);
- Reduce motor vehicle emissions (including mobile source GHG emissions) associated with rental car customers and employees through implementation of the proposed Unified Bus System, which includes consolidation of the individual rental car shuttle bus fleets with existing Massport buses that service the MBTA Blue Line Airport Station (routes 22/33/55);
- Reduce congestion and air emissions due to terminal curb demand and dwell times at terminal curbs through implementation of the Unified Bus System, which will be serviced by a fleet of clean-fuel/low-emission vehicles;
- Improve access to the MBTA rapid transit system for airport employees and air passengers through the Unified Bus System and improve passenger pick-up/drop-off operations at Airport Station;
- Improve the level-of-service at several SWSA intersections and intersections located elsewhere on-airport through proposed roadway improvements;
- Reduce environmental impact both locally and regionally during the construction phases and during long-term operation by fully embracing sustainable design, construction, and operations guidelines. The Program will be designed, constructed and operated to be eligible for LEED® certification. Massport will meet the goals of the State of Massachusetts "LEED Plus" program (established by the Commonwealth's Executive Office for Administration and Finance). Massport will strive to achieve a LEED Silver rating or better.
- Reduce overall energy demand and, therefore, stationary source GHG emissions through

thoughtful design, including utilization of building energy modeling in conceptual design:

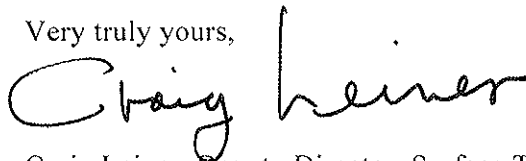
- Supplement energy demand with self-generated energy, including a commitment to supplementing at least 2.5 percent of electricity use with an on-site renewable source (e.g., solar and/or wind).
- Reduce the overall demand for potable water use and wastewater generation;
- Reduce noise from existing rental car operations and buffer the community from noise from the airport roadway system.
- Facilitate the design and construction of a landscaped buffer abutting the new facility, including the Phase 2 SWSA Airport Edge Buffer;
- Minimize views of the Garage Structure from the community; and
- Provide pedestrian and bicycle connections for employees, air passengers and community residents.

The MEPA Statute limits the review of Final EIRs to 30 days. In order to provide an extended 45-day period for public review and comment, the Final EIR/EA will be distributed on or about March 10 (or an earlier date, if available) and available on Massport's website. The availability of the Final EIR/EA will appear in the March 10, 2010 edition of the *Environmental Monitor* as a Public Notice. The public review and comment period will formally begin when the notice of availability of the Final EIR/EA appears in the March 24, 2010 edition of the *Environmental Monitor*. Comments submitted in response to the Final EIR/EA will be due by **April 23, 2010**.

Pursuant to the MEPA regulations, a copy of this Final EIR/EA will be provided to previous reviewers and commenters. In addition, a copy of this Final EIR/EA will be posted on Massport's website and made available in select local public libraries. Additional copies of this Final EIR/EA will be made available upon request. Requests for copies of the Final EIR/EA should be directed to Tom Ennis at 617-568-1090 or via e-mail at tennis@massport.com.

We look forward to the review of this document. Please do not hesitate to contact me if you have any questions.

Very truly yours,



Craig Leiner, Deputy Director, Surface Transportation
Massachusetts Port Authority

Enclosure

cc: Final EIR/EA Distribution List (see Appendix A)

***Southwest Service Area Redevelopment Program at
Boston-Logan International Airport***


**East Boston,
Massachusetts**

Submitted to **Executive Office of Energy and Environmental Affairs
Massachusetts Environmental Policy Act Office**

Proponent **Massachusetts Port Authority (Massport)**
In cooperation with: Federal Aviation Administration

Prepared by **VHB/Vanasse Hangen Brustlin, Inc.**
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Fennick McCredie Architecture - Design Architect
Vanasse & Associates – Transportation
Harris Miller Miller & Hanson, Inc. – Noise
KB Environmental, Inc. – Air Quality
Brown Richardson & Rowe, Inc. – Landscape Architect
Goody Clancy – Urban Planning
BVM Engineering, Inc. – Sustainable Design

This environmental assessment becomes a Federal document when evaluated and signed by the Responsible FAA Official.

Responsible FAA Official:  Date: March 1, 2010
Richard P. Doucette
Manager, Environmental Programs

FEDERAL FINDING

After careful and thorough consideration of the facts contained herein, the undersigned finds that the proposed federal action is consistent with existing national policies and objectives as set forth in Section 101 of the National Environmental Policy Act (NEPA) and other applicable environmental requirements and will not significantly affect the quality of the human environment or otherwise include any condition requiring consultation pursuant to Section 101(2) (c) of the NEPA.

APPROVED: _____ Date: _____
Richard P. Doucette
Manager, Environmental Programs

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Summary

Project Name and Location

Southwest Service Area (SWSA) Redevelopment Program
Boston-Logan International Airport, East Boston, Massachusetts.

Proponent

Massachusetts Port Authority (Massport)

EEA Number

EEA No. 14137

Overview

Boston-Logan International Airport (Logan Airport) is the gateway to New England, and stimulates the local economy by approximately \$7 billion per year. In 2008 (the most recent ACI rankings available), Boston Logan International Airport was ranked by the Airport's Council International (ACI) as 20th in the nation in passenger volume and 21st in flight operations. The Massachusetts Port Authority (Massport), owner and operator of Logan Airport, works to provide the infrastructure and operations that can safely and efficiently support, process and expedite both passengers and airport functions alike.

This document is the Final Environmental Impact Report/Environmental Assessment (Final EIR/EA) for the SWSA Redevelopment Program (the "Program") prepared according to the requirements of the Massachusetts Environmental Policy Act (MEPA), specifically 301 CMR 11.10(1), and the National Environmental Policy Act (NEPA). Therefore, in accordance with the Scope set forth by the Secretary of the Executive Office of Energy and Environmental Affairs (EEA) in the Certificate on the October 15, 2009 Notice of Project Change (the "2009 NPC"), issued on December 24, 2009, and in accordance with the requirements of NEPA, this Final EIR/EA provides a description of the proposed SWSA Redevelopment Program and addresses specific environmental issues. This document also summarizes the planning, siting and design processes, and presents a comprehensive assessment of potential environmental impacts and proposed benefits of the Program and the measures proposed to reduce, minimize and/or eliminate environmental impacts. Although the primary project elements have been established, the SWSA Redevelopment Program is still in the conceptual design phase. The information contained in this Final EIR/EA represents a snapshot of the status of the design as of March 2010. As the design progresses, various program elements will be further

refined including building façade treatment, landscape plans, and building support systems, such as mechanical, electrical and heating/cooling.

Massport is proposing to redevelop the Southwest Service Area (SWSA) at Logan Airport in East Boston, Massachusetts. The SWSA has historically served as Logan Airport's ground transportation hub and currently includes seven separate rental car businesses, taxi, bus and limousine pools, and long-term overflow commercial surface parking. To better serve the traveling public, the rental car companies, and their employees, and to reduce ground transportation and air quality impacts, Massport is proposing to construct a consolidated car rental facility with rental car support facilities in the SWSA. The consolidated ground transportation facilities and services would accommodate current and anticipated passenger levels through the provision of more efficient rental car, taxi, and bus/limousine facilities.

Redevelopment of the SWSA is needed because under current conditions and projected future passenger growth (independent of the project), the SWSA and rental car facilities as they operate today are not adequate to meet Massport's or the rental car companies' needs. Furthermore, with enabling projects anticipated to commence in 2010, ConRAC facilities (specifically, the Garage Structure, Customer Service Center (CSC), permanent Quick Turnaround Areas (QTAs) 1 and 2, and temporary QTAs 3 and 4) are planned to be operational by late 2013 resulting in the creation of a variety of jobs (engineering, fabrication and construction) that would contribute to the Commonwealth's economic recovery in the near-term. Additionally, the remaining SWSA construction (specifically, the Taxi Pool and Bus and Limousine Pool relocations and permanent QTA 3 and 4) is planned to be complete in early 2015, which would also contribute positively to the regional economic recovery. By 2015, it is estimated that construction of the SWSA Redevelopment Program would generate approximately 200 to 300 construction jobs over the 5-year construction schedule (with peak employment at nearly 400 jobs).¹ Additionally, by adhering to the goals and principals of sustainable design, the Program is expected to support local and regional providers of construction materials and/or products.

This Final EIR/EA specifically addresses the Secretary's Certificate on the 2009 NPC dated December 23, 2009, including the following key topics:

- A detailed description of the proposed program, including an update on the design approach and Phase 2 SWSA Edge Buffer and other site landscaping, as well as proposed pedestrian and bicycle facilities;
- Site alternatives and consideration of below-grade parking;
- The proposed sustainable planning, design and operational elements and an updated Greenhouse Gas emissions assessment, in accordance with the *MEPA Greenhouse Gas Policy and Protocol*;
- Updated traffic, air quality (including consideration of an enclosed Garage Structure and a discussion of ultra-fine particulate matter and public health studies related to Logan Airport), noise, and wastewater analyses;
- Clarification on the proposed stormwater management plan;



¹ These figures do not include off-site or secondary jobs (management/administration, delivery, insurance, local businesses/eateries, etc.) that would benefit from the project as well.

- An updated construction sequencing plan and analysis of the potential temporary environmental impacts;
- A comprehensive description of environmentally-beneficial measures and commitments, including draft Section 61 Finding; and
- Direct responses to all comments received on the 2008 Draft EIR/EA and 2009 NPC.

Refer to the 'Final EIR/EA Contents' section below for a more detailed outline of the contents of this report.

SWSA Redevelopment Program History

The SWSA would be one of the last remaining areas of the airport to undergo significant redevelopment. Refer to Figure S.1 for a site location map of the SWSA. Prior to 1975, the SWSA supported aircraft hangar and shop facilities, aircraft parking, and a post office, all immediately adjacent to the residential community of Jeffries Point (Figure S.2). In the 1970s, airside functions were moved away from the neighborhood and rental car operations and ground transportation services were moved to the SWSA. The Logan Modernization program of the 1990s addressed airport upgrades and redevelopment in the central terminal area and projects at the north end of the airport, but the SWSA has had only modest upgrades or improvements since rental car operations and ground transportation services moved to the site.

The SWSA currently supports a variety of essential ground transportation services and facilities, including the Taxi Pool, seven separate rental car businesses and a combined bus and limousine pool as well as a flight kitchen. Refer to Figure S.3 for the existing site conditions of the SWSA. Independent of the Program, the Flight Kitchen will be relocating to the North Service Area (NSA) to a currently vacant flight kitchen building or off-airport in 2011, which is the end date of the current lease agreement.

As described in the annual Logan Airport Environmental Status and Planning Reports (ESPRs) and Environmental Data Reports (EDRs) dating back to 1993, Massport has been engaged in ongoing feasibility planning to replace and upgrade existing car rental and ground transportation facilities in the SWSA. Over the last decade many major airports have constructed Consolidated Rental Agency Complexes (ConRACs).² Travelers have come to expect the quality of service afforded by these types of facilities.³ In early 2006, Massport initiated a feasibility study for a consolidated rental car facility at the SWSA. The study examined program requirements and site location and layout alternatives, financing options, order of magnitude of costs, and environmental benefits. Following the feasibility study a concept planning and design process was commissioned and is currently transitioning into the final design stage, in accordance with the overall program schedule.



- 2 A ConRAC is a facility that supports all or most rental car activities in a single convenient on- or off-airport location. Typical features include: Ready/Return parking areas; Vehicle service and storage areas; a Customer Service Center; and a shared mode of transportation, i.e., consolidated shuttle buses, or automated people mover, to/from terminals.
- 3 ConRACs are in operation at, but not limited to, BWI, Dallas-Fort Worth, Houston George Bush, Fort Lauderdale, Kansas City, Atlanta, Phoenix, and San Francisco. ConRACs are under construction at Miami and Providence, Seattle airports and are planned for Chicago-Midway, and Washington-Dulles.

SWSA Redevelopment Program

The proposed SWSA Redevelopment Program, previously reviewed in the 2008 Draft EIR/EA, called for a two-phased replacement of and upgrades to existing ground transportation uses within the SWSA. The 2008 Draft EIR/EA program proposed the development of a five-level, approximately 2.6 million gross square foot garage with approximately 7,600 parking spaces (4,600 rental car “Ready/Return” spaces on Levels 1, 2 and 3, and 3,000 commercial parking spaces on Levels 4 and 5) and a 114,000 gross square foot Customer Service Center (CSC). In addition, four QTAs totaling approximately 115,000 gross square feet in building area and approximately 1,250 surface parking spaces, a common clean-fuel bus system, a retained Taxi Pool, roadway and intersection improvements, and completion of the SWSA Airport Edge Buffer (Phase 2) were also proposed.

The revised Program, as presented in the 2009 NPC and further described and analyzed in this document, continues to include the consolidation of the existing rental car facilities and operations into a ConRAC facility (Levels 1 through 4 [rooftop] of the Garage Structure and CSC, as well as the QTAs) and eliminates the consolidated commercial parking previously proposed at Levels 4 and 5 of the Garage Structure (the Program is shown in Figure S.4). Although temporarily relocated to the North Service Area (NSA) during construction, the Bus and Limousine Pool would be retained within the SWSA east of Jeffries Street. Key components of the currently proposed Program include:

- A four-level Garage Structure with a Customer Service Center (CSC);
- Four service facilities with at-grade surface parking (QTAs);
- Retained Taxi Pool within the SWSA;
- Retained Bus and Limousine Pools within the SWSA;
- Retained and relocated within the SWSA some of the long-term overflow commercial surface parking;
- A Unified Bus System -- a consolidated clean-fueled rental car shuttle bus system that connects the ConRAC to the airport terminals and the MBTA Blue Line Airport Station, replacing the Massport shuttle routes 22/33/55;⁴
- Site improvements including roadway modifications, pedestrian and bicycle facilities; and
- Site landscaping, including implementation of the Phase 2 SWSA Airport Edge Buffer (refer to Figure S.5).⁵

It is anticipated that the Flight Kitchen will be demolished and its operations consolidated either to a vacant building on-airport in the North Service Area (NSA) or off-airport in 2011 (the end date of the current lease agreement) with or without the Program.

The Program will allow improved environmental management, provide landscaped buffers, facilitate implementation of the Logan Airport Edge-Buffer Program (the SWSA Phase 2 Airport Edge Buffer), reduce



4 All other Massport airport buses (long-term economy parking; employee lot; water taxi; Logan Office Center) will continue as currently operated.

5 The Phase 2 SWSA Airport Edge Buffer is described in the *Boston-Logan International Airport 2007 Environmental Data Report*, September 2008, Chapter 3, pg 3-12.

noise, improve air quality for adjacent neighborhoods through consolidation of the rental car shuttle bus fleet, reduce terminal curbside congestion, reduce airport-related traffic on off-airport roadways, and reduce Greenhouse Gas (GHG) emissions through the incorporation of sustainable design principles (e.g., to utilize the design performance criteria of the Leadership in Energy and Environmental Design (LEED®) Green Building Rating System and comply with the requirements of the MA LEED “Plus” Program).

The SWSA Redevelopment Program is consistent with Massport’s ongoing goals of creating customer-efficient facilities that will help Massport manage demand in an environmentally responsible manner and reduce impacts on the community. Consolidating rental car operations on-airport is consistent with Massport’s long established goal of reducing airport-related off-airport activities and reducing the number of re-circulating rental car shuttle buses on airport roads. The Program is consistent with the Massachusetts Department of Environmental Protection (DEP) Logan Parking Freeze regulation, which encourages the relocation of rental car spaces from the East Boston freeze area to the Logan freeze area (310 CMR 7.30).

In summary, the proposed SWSA Redevelopment Program is the culmination of decades of airport planning, striving for a high level of customer service and operational efficiency while addressing the needs and concerns of the adjacent community. Existing space within the SWSA is severely constrained. The rental car companies have voiced repeated concerns over their ability to maintain a high level of customer service within the existing facilities. Rather than allow each company to expand in an uncoordinated manner, Massport proposes the construction of a consolidated facility that will increase operational efficiency for the rental car industry and improve environmental and operational conditions.



Project Phasing, Schedule and Cost

Compared to the initial concept, as presented in the 2008 Draft EIR/EA, the period of construction has been reduced as the facility would be constructed in a single phase. Preparatory actions are anticipated to commence in 2010. ConRAC facilities (the CSC, Garage Structure, permanent QTAs 1 and 4, and temporary QTAs 2 and 3) would be constructed first. By early 2015, the entire Program would be completed and operational.

Construction of the ConRAC facilities will be preceded by numerous enabling activities that re-organize the SWSA through multiple sub-phases allowing for enough of the site to be cleared for staging and construction. Temporary relocations for the Program include:

- The Taxi Pool would be temporarily relocated to Lot B with roadway and signal modifications to Harborside Drive at the Hyatt intersection to mitigate traffic conditions. Upon completion of the ConRAC facility, the Taxi Pool would be relocated back to the SWSA north of Porter Street.
- The Cell Phone Lot (currently at Lot B) would be temporarily relocated to an existing open parking lot along the North Service Road. The intersection of Hotel Drive and the service road will be reconfigured to improve traffic flow and reduce delays at this intersection. The Cell Phone Lot may then be relocated back to Lot B once the Taxi Pool is relocated back to the SWSA.
- The Bus and Limousine Pools would be temporarily relocated to the North Service Area (NSA), which would require local site improvements including roadways (discussed below), drainage, and underground utilities. Upon completion of the ConRAC facilities, the Bus and Limousine Pools would be relocated back to the SWSA east of Jeffries Street.

The reduced construction period and phasing would result in reduced construction-related impacts (specifically, traffic, air, and noise). All previously proposed construction-related mitigation would be implemented. Refer to Chapter 6, *Construction* for further details on proposed construction-related mitigation.

The total cost estimate for the full SWSA Redevelopment Program is \$337 million.⁶ This cost estimate includes the new ConRAC facility (the Garage Structure, CSC, and QTA facilities), the on-site ground transportation facilities, including the Taxi Pool (temporary and permanent), the Bus and Limousine Pools (temporary and permanent), the completion of the Phase 2 Airport Edge Buffer, the procurement of buses and associated roadwork for the Unified Bus System and other necessary utility modifications and roadway/signal improvements.

Funding for these items is anticipated to come from multiple sources. In 2008, Massport and the rental car industry instituted the collection of a Customer Facility Charge (CFC). These charges (currently \$6.00 per day) are paid by the renting customer on a daily basis for the length of a rental transaction in addition to the agreed upon rental rate, applicable taxes, and the existing convention center fee. The money collected from the CFC by the rental car companies is remitted to Massport and placed into a fund that will be directed toward the repayment of the bonds used to construct the new rental car facility portion of the proposed Program. This method of financing is similar to many other consolidated rental car centers developed over the past decade. The sale of Specialty Facility Revenue Bonds, or SFRB's, in the bond market will be the largest funding source of the Program. Massport is currently developing a bond sale program, and with the approval of the Massport Board, in the near future.

Additional funding for the SWSA Redevelopment Program is anticipated to come from a Federal Loan Program called The Transportation Infrastructure Finance and Innovation Act (TIFIA). This program provides low-interest federal loans to projects that involve transportation infrastructure improvements. The proposed SWSA Redevelopment Program is anticipated to qualify due to the improvements for common ground transportation elements at Logan, including the rental cars, upgrades to local roadways, the Unified Bus System, and the connection to the regional public transportation system via the MBTA Blue and Silver Lines. Massport has submitted a Letter of Interest to the TIFIA program in hopes of being selected to participate. It is anticipated that a significant portion of the required funding, up to a third of the cost of the Program, may come from this federal source.

Another funding source will be rent, both ground and facility rent, paid by the participating rental car companies for the privilege of operating at Logan Airport, which are currently being negotiated by Massport and the rental car industry. As with the CFC, rent payments will also be used to repay the bonds sold to fund the construction of the redevelopment program.

A second Federal program from which Massport will be seeking funding is the VALE Grant. The Voluntary Airport Low Emissions, or VALE, program funds will be used to supplement funding to procure the new unified shuttle bus fleet.⁷ These low-emission buses will replace the existing fleet of individual rental car



6 The program cost estimate will be adjusted as design advances and more detailed engineering information is developed. The Authority will periodically conduct design reviews and value engineering at appropriate stages.

7 VALE monies will hopefully be available to fund incremental cost of either the CNG or Clean Diesel Hybrid fueled buses.

shuttle buses as well as several routes of Massport's own shuttle bus program. (Refer to Chapter 3, *Surface Transportation* for more information on the Unified Bus System.)

Purpose and Need Statement

The purpose of the SWSA Redevelopment Program is to consolidate the on- and off-airport operations of the rental car companies into one integrated facility on the airport that better serves the traveling public and the rental car companies while reducing ground transportation and air quality impacts.



Purpose

Boston-Logan International Airport is New England's largest intermodal transportation center. Massport and its airport tenants continue to modernize their facilities to accommodate future air travel needs, while also providing superior customer service. To meet, adequately and efficiently, the current and anticipated future demand for rental cars, the proposed SWSA Redevelopment Program will consolidate the rental car operations into one integrated facility that will better serve the air traveling public and the car rental companies, as well as reduce ground transportation and air quality impacts.

If the ConRAC is not built, then the rental car agencies will have little choice but to expand their existing off-site facilities in the adjacent residential communities. This would add to off-airport roadway congestion and further degradation of air quality in the region. In an effort to avoid these consequences, Massport seeks to provide rental car facilities in a more efficient way through a comprehensive, on-airport plan within the SWSA.

The SWSA Redevelopment Program will also provide opportunities to strengthen surface transportation connections to and from the airport terminals as well as to the MBTA Blue Line Airport Station. To accomplish this, a unified shuttle bus system will be deployed to link the new facility with all terminals and the MBTA station. The shuttle bus fleet will be composed of clean fuel, low-emitting vehicles.

As documented in annual Environmental Data Reports, dating back to 1989, and Environmental Status and Planning Reports (1999 and 2004), Massport has long contemplated a consolidated car rental facility in the SWSA. Recently, numerous other airports throughout the country, including Fort Lauderdale/Hollywood, Phoenix Sky Harbor, Dallas/Fort Worth, Baltimore/Washington, Houston Intercontinental, Chicago Midway, Hartsfield-Jackson Atlanta and T.F. Green/ Providence Airports, among others, have either built or are currently planning for consolidated on-airport car rental facilities.

Currently, eight rental car agencies serve Logan Airport. Seven companies (Hertz, Avis, Budget, Alamo, Dollar, National, and Enterprise) are located on-airport in the SWSA. One rental car agency (Thrifty) operates on Route 1A north of the Airport and will relocate to the airport with the proposed consolidated car rental facility. Each rental car agency currently operates its own diesel-fueled shuttle bus fleet that runs between all terminals and their respective on- or off-airport facilities. The anticipated environmental and operational benefits related to the SWSA Redevelopment Program are discussed below.



Need

The SWSA Redevelopment Program is needed because:

- The airport's current rental car facilities cannot efficiently meet current and anticipated long-term customer demand, nor efficiently serve customers in their current configuration.
- Air passenger growth at Logan Airport and, in turn, rental car demand, has led some of the rental car companies to request additional facilities and capacity to meet customer demand and their operational needs.
- The East Boston Parking Freeze encourages relocation of rental car spaces from the East Boston Freeze areas onto the airport.
- Logan Airport is a land-constrained airport and must accommodate future car rental needs in more efficient vertical facilities.

Current rental car operations are inefficient and inconsistent with Massport's long-range emission reduction commitments, which include reducing the number of re-circulating rental car shuttle buses on airport roads and replacing diesel fleet buses with alternative-fuel, low-emissions vehicles. This would improve air quality by reducing engine emissions, particularly oxides of nitrogen (NO_x).

The SWSA Redevelopment Program is intended to address these needs, thereby enabling the airport to function effectively as an integral component of the local, regional, and national intermodal transportation network.

The weakening economy and volatility in fuel prices that started in 2008 has continued into 2009, creating a challenge for the travel industry as a whole and the airline industry in particular. While this could lead to a short-term decline in passenger traffic, Massport expects that Logan will return to positive passenger growth. This is based on strength of the Logan market, including:

- The Logan Airport service area is one of the strongest origin and destination (O&D) markets in the country. Approximately nine out of ten airport passengers are local O&D passengers. Logan Airport is the principal airport for the core Boston metro area and the principal airport for New England's domestic long haul and international services.
- Logan Airport has the most extensive Low Cost Carrier service in New England, accounting for 23 percent of total domestic seat capacity at Logan Airport in March 2008.
- Logan Airport is the second largest U.S. international gateway airport among non-airline connecting hubs. The airport is not dependent on a single carrier for international services.

Accordingly, the Authority continues to plan, program, and finance the facilities and infrastructure that will be necessary to support continued safe, secure, efficient, and environmentally sound operations. Given the

long lead times required to implement a major facility, it is necessary and prudent to continue the permitting, design, and finance process now so that the ConRAC will be in place to help the Authority manage rental car operations.

Benefits of the SWSA Redevelopment Program

This section presents a summary of the anticipated benefits (operational and environmental) of the SWSA Redevelopment Program. Chapter 7, *Beneficial Measures/Draft Section 61 Findings*, provides a comprehensive summary of proposed mitigation and/or beneficial measures—all of which have been retained and carried through from the 2008 Draft EIR/EA and 2009 NPC.

The new ConRAC facility would facilitate the efficient management of ground transportation and rental car operations in a user-friendly structure. The proposed ConRAC and its associated program elements would offer significant environmental and operational benefits including:

- Responding to the growth in rental car customer activity through enhanced, more efficient rental car facilities that better serve the traveling public;
- Reducing the need for the rental car operators to shuttle vehicles from off-airport storage locations, which results in less vehicle-miles-traveled (VMTs) and air emissions (including mobile source GHG emissions) within the East Boston community, Route 1A, and adjacent neighborhoods.
- Reducing the size of the current rental car shuttle bus fleet by 70 percent (approximately 94 rental car buses at peak time to approximately 28 vehicles at peak time). This would result in a reduction in energy use, VMT, and emissions.
- Reducing motor vehicle emissions (including mobile source GHG emissions) associated with rental car customers and employees through implementation of the proposed Unified Bus System, which includes consolidation of the individual rental car shuttle bus fleets replacing the existing Massport buses that service the MBTA Blue Line Airport Station (routes 22/33/55).
- Reducing congestion and air emissions due to terminal curbside demand and dwell times at terminal curbs through implementation of the Unified Bus System, which will be serviced by a fleet of clean-fuel/low-emission vehicles.
- The new Unified Bus System, serving Departures and Arrivals levels of the terminals, will better utilize terminal curbside capacity and greatly improve service for departing passengers.
- Improving access to the MBTA rapid transit system for airport employees and air passengers at the MBTA Blue Line Airport Station as well as the Silver Line stop at Terminal A through the Unified Bus System.
- Improving the level-of-service at several SWSA intersections and intersections located elsewhere on-airport.
- By fully embracing sustainable design, construction, and operations guidelines, environmental impacts would be reduced both locally and regionally during the construction phases and during long-term operation. The Program will be designed, constructed and operated to be eligible for LEED® certification. Massport will meet the goals of the State of Massachusetts “LEED Plus”

program (established by the Commonwealth's Executive Office for Administration and Finance). Massport will strive to achieve a LEED Silver rating or better.

- Reducing overall energy demand and, therefore, stationary source GHG emissions with a design approach that is three-fold:
 - Reduce the overall energy demand through appropriate design and sizing of systems;
 - Incorporate cost-effective energy-optimizing systems; and
 - Utilize self-generated energy, including a commitment to supplementing at minimum 2.5 percent of electricity use with an on-site renewable source (e.g., solar and/or wind).
- Reducing the overall demand for potable water use and wastewater generation.
- Reducing noise from existing rental car operations and buffering the community from noise from the airport roadway system.
- Facilitating the design and construction of a landscaped buffer abutting the new facility, including the SWSA Airport Edge Buffer, Phase 2.
- Providing pedestrian and bicycle connections for employees, air passengers and community residents.



Summary of Operational Benefits

Existing space for rental car activities is severely constrained in the SWSA. Currently, eight rental car agencies serve Logan Airport. Seven companies (Hertz, Avis, Budget, Alamo, Dollar, National, and Enterprise) are located on-airport in the approximately 49-acre SWSA. One rental car agency (Thrifty) currently operates on Route 1A north of the Airport and will relocate to the airport with the new ConRAC facility. All rental car companies maintain offices and light maintenance facilities that include washing, cleaning, and fueling. Each rental car company owns, operates, and maintains its own individual bus fleet that shuttles customers to and from the terminals. The typical operations for the existing shuttle buses consist of each individual rental car company vehicle stopping at each terminal curbside on each and every loop.

The new ConRAC facility would provide several operational benefits, including:

- Efficient management of car rental operations;
- Unified Bus System with an efficient/low-emission propulsion system and an operation that eliminates the individual RAC company shuttles, result in reduced curb congestion at the terminals, lower air pollution, and provides a consistent quality of service to all rental car customers; and
- A simplified rental car return where returning renters would be directed to the ConRAC facility from the same regional roadway network they use to leave the airport (avoiding the airport terminal area).

Current and Future Rental Car Process and Operations

Figure S.6 illustrates the general path taken by a patron who chooses to rent a car today. The future rental car shuttle paths and operations, also depicted in Figure S.6 and described below, are based on preliminary conceptual design.

The SWSA Redevelopment Program would greatly enhance customer convenience for travelers renting cars. By creating a consolidated facility, travelers would have improved ground access through a simplified connection between airport terminals and their rental vehicles. The double-route Unified Bus System would bring passengers directly to the MBTA Blue Line Airport Station, the ConRAC and the airport terminals. A significant benefit is that for the first time, all shuttle buses will provide upper level drop-off for departing passengers.

Future rental car return would be similarly simplified. Returning renters would be directed to the ConRAC from the same regional roadway network they use to leave the Airport; thereby, avoiding the terminal area. The renter would follow signage to the appropriate vehicle return area for their chosen rental car company. After completing their transaction, the traveler would proceed to Level 1 of the CSC where they would board the Unified Bus System bound for the airport terminals A and B or C and E (Figure S.5).



Summary of Environmental Benefits

The proposed facility and its associated program elements will offer a number of substantial environmental benefits – both as a result of operational efficiencies described above and of improvements or mitigation that the Proponent is committed to implementing. The environmental benefits would include:

- Reduced need for the rental car operators to shuttle vehicles from off-airport storage locations, thereby reducing the impact (reduction in VMTs and vehicle air emissions) of rental car operations on the East Boston community, Route 1A, and adjacent neighborhoods.
- Reduced VMTs and vehicle air emissions as a result of the Unified Bus System, due to a 65 percent reduction in rental car shuttle bus VMTs and through utilization of a fleet of clean-fuel/low-emission vehicles.
- Reduced on- and off-airport roadway congestion.
- Improved efficiency in ground transportation operations (rental car operations as well as Taxi Pool and Bus and Limousine Pools) and customer service.
- Improved Level-of-Service at several on- and off-airport intersections.
- Reduced GHG emissions through the incorporation of energy efficiency building design and system improvements (above what is currently required by MA Building Code) and utilization of on-site renewable energy in place of fossil fuels (a minimum 2.5 percent of solar/wind renewable energy for overall electricity demand).
- The proposed façade treatments (specifically to the western and southern sides that face the community) maximize building enclosure while providing the required ventilation for an “open parking garage” as defined by the building code in order to reduce air emissions, light spill and noise.

- The south façade of the Garage Structure, closest to the community, is proposed to be approximately 80 feet away from the nearest home and approximately 80 percent enclosed, allowing adequate openings for ventilation and borrowed daylight.
- The west façade of the Garage Structure is proposed to be set back a range of 350 feet to over 500 feet from the airport property line and approximately 50 percent enclosed, on average, with a concentration of solid panels and architectural louvers that screen views into the Garage Structure at the southwest corner (the portion closest to the community).
- Reduced noise from RAC operations at the QTA facilities through the enclosure of vacuum systems, elimination of air blowers (that dry cars) and outdoor loudspeakers as well as the construction of solid fences/walls at QTA borders.
- Orientation of the Garage Structure to buffer noise to the community from the airport roadways.
- Improved pedestrian and bicycle connections and facilities (e.g., secure bicycle storage) for airport customers, employees and community residents.
- Improved employee and air passenger access to the MBTA rapid transit system.
- Completion of the design and construction of a landscaped buffer system abutting the new facility (SWSA Edge Buffer, Phase 2).
- The Program will be designed, constructed, and operated to be eligible for Leadership in Energy and Environmental Design (LEED®) certification,⁸ which will lessen environmental impact both locally and regionally during the construction phases (reduced construction/demolition waste and application of environmentally-friendly materials) and during long-term operation (efficient energy systems, renewable energy sources, reduced water usage/wastewater generation through a water recycling system and water-efficient fixtures, and waste minimization/recycling).

Combined, these elements are anticipated to provide substantial benefits when compared to the natural growth of individual airport rental car operations without the ConRAC.

MEPA Review History

Previously, the SWSA was discussed in connection with the West Garage project [EOEA No. 9790], which included relocation of the Taxi Pool to the SWSA, and the East Boston Three-Way Land Transfer project [EOEA No. 12216], which was proposed the creation of a commercial parking garage on the old post office site (part of the SWSA). The Program is included in the Boston Region Metropolitan Planning Organization's Regional Transportation Plan.⁹

An Environmental Notification Form (ENF) was filed with MEPA on November 14, 2007 commencing the permitting process for the SWSA Redevelopment Program (the "2007 ENF"). A 59-day public review and comment period was held allowing state and local agencies as well as the public extended time to review and



⁸ Massport will achieve the goals of the State of Massachusetts LEED "Plus" program established by the Commonwealth's Executive Office for Administration and Finance as, described further in Chapter 3, *Site Planning and Sustainable Design*, and will strive to achieve a LEED silver rating or better.

⁹ Boston Region Metropolitan Planning Organization, *JOURNEY TO 2030: Transportation Plan of the Boston Region Metropolitan Planning Organization*, updated September 30, 2009.

comment on the ENF. A MEPA site visit was held on January 9, 2008. Additional public outreach meetings/presentations on the 2007 ENF were held in addition to the mandatory MEPA site visit. These meetings included:

- Residential Abutters Meeting on November 29, 2007;
- 156 Porter Street Condominium Association Meeting on January 8, 2008; and
- Jeffries Point Neighborhood Association (JPNA) Meeting on February 11, 2008.

In response to the Secretary's January 30, 2008 Certificate on the ENF, Massport submitted a Draft EIR/EA for public review on June 27, 2008. An 82-day public review and comment period was held allowing state and local agencies as well as the public extended time to review and comment on the Draft EIR/EA. The Secretary issued a Certificate on the 2008 Draft EIR/EA on October 10, 2008. The following public outreach meetings/presentations on the 2008 Draft EIR/EA were held:

- Airport Impact Relief, Inc. (AIR, Inc.) Meeting on September 3, 2008;
- JPNA Meeting on February 9, 2009; and
- AIR, Inc. Meeting on June 3, 2009.



Summary of Program Changes since the 2008 Draft EIR/EA

Following the public review of the 2008 Draft EIR/EA, in light of long term economic trends affecting airport operations and existing economic constraints on airport capital programs as well as in response to community concerns, Massport re-evaluated and reduced the overall Program. As a result, the overall size and scale of the SWSA program was reduced by almost half. The primary change to the Program was **the removal of the commercial parking component** from the Garage Structure, which served to:

- Reduce the size of overall Program by approximately half;
- Reduce the height of the Garage Structure by one level, or 18 feet;
- Reduce the total number of structured parking spaces by 59 percent;
- Provide additional set-back of the Garage Structure from the airport property edge and the neighboring residential community;
- Retain the Bus and Limousine Pools within the SWSA;
- Retain and relocate within the SWSA some of the long-term overflow commercial surface parking;
- Eliminate the second phase of construction (now a single-phase project); and
- Combine the individual rental car shuttle buses and Massport Airport Station buses (routes 22/33/55) through a Unified Bus System, thereby reducing the rental car shuttle bus fleet size by 70 percent compared to the Future No-Build/No-Action Conditions (from 94 vehicles to 28 vehicles).^{10 11}



¹⁰ All other Massport shuttle buses (long-term parking; employee lot; water taxi; Logan Office Center) will continue.

These changes would result in reduced project impacts, including:

- Further reduction in vehicle-miles-traveled (VMT) and associated air emissions as compared to the previously proposed Program;
- Additional pervious/landscaped areas site-wide; and
- Improved operational efficiency of the ConRAC facility through the reduction in floor area and volume of the Garage Structure.

As a continuation of the MEPA/NEPA public review process, the 2009 NPC was filed on October 15, 2009 and presented the changes to the SWSA Redevelopment Program since the filing of the 2008 Draft EIR/EA. The 2009 NPC assessed the effects/benefits of the proposed changes, summarized the environmentally beneficial measures associated with the new Program, and proposed a revised scope for the Final EIR/EA. A 45-day public review and comment period was held allowing state and local agencies as well as the public extended time to review and comment on the 2009 NPC. The Secretary issued a Certificate on the 2009 NPC on December 23, 2009. The following public outreach meetings/presentations on the 2009 NPC were held:

- Airport Impact Relief, Inc. (AIR, Inc.) Meeting on November 14, 2009; and
- JPNA Meeting on November 16, 2009.

In response to the Secretary's NPC Certificate and Scope dated December 23, 2009, Massport submits this Final EIR/EA for review and comment.

Agency Coordination Following the 2008 Draft EIR/EA

Since the filing of the 2008 DEIR/EA, Massport has coordinated with state and local agencies regarding issues stated in the 2008 DEIR/EA Certificate in the following impact areas:

- Greenhouse Gas emissions;
- Stormwater management/water quality;
- Soil and groundwater conditions; and
- Meetings with DOER, EOT and DEP regarding alternative energy, including solar and/or wind power.

On November 18, 2008, Massport met with the MEPA Office and the Massachusetts Department of Energy Resources (DOER) to discuss how to assess and reduce GHG emissions associated with the 2009 NPC Program, in accordance with the *MEPA Greenhouse Gas Emissions Policy and Protocol*.

Additionally, a physical inspection of the existing Maverick Street Outfall was undertaken to reconcile inconsistent information in drainage plans for the area. On January 21, 2009, Massport met with the Boston

11 This equates to a reduction of approximately 4,865 vehicle miles daily and a savings of around 400,000 gallons per year of fuel depending on the Unified Bus System fuel option (a reduction of around 5,000 tons per year of CO₂e emissions) compared to the 2007 Existing Condition.

Water and Sewer Commission (BWSC) to discuss the SWSA drainage plan which includes removing stormwater flow from four acres of the site from the BWSC combined sewer system in Maverick Street. The proposed SWSA stormwater management plan and modifications to the existing Maverick Street Outfall (Outfall 004) were reviewed. BWSC was in agreement with the proposed overall stormwater management approach and modifications to the Outfall 004 and its involvement will be ongoing as the design continues into the preliminary and final design phases. The minor modifications to Outfall 004 are not anticipated to require changes to either Massport's or BWSC's NPDES permits. The minutes from the meeting with BWSC and sketches of the proposed modifications can be found in the 'Work within the Maverick Street Outfall' section of Attachment D. On February 25, 2009, Massport submitted responses to DEP's drainage-related comments on the 2008 Draft EIR/EA.¹² A copy of this submission package to DEP is provided in Attachment D. This information is in response to DEP's comments on the 2008 Draft EIR/EA.

All but one of the Release Tracking Numbers (RTNs) associated with the SWSA have been closed out, with three resulting in the filing of an Activity and Use Limitation (AUL). The remaining RTN (3-28792) was reported on October 29, 2009 as a result of soil investigation related to the ConRAC and response actions are ongoing. The three AUL areas will require that a Soil Management Plan be developed by a Licensed Site Professional (LSP) and submitted to the DEP prior to construction within those areas.



Changes to the Program Since the 2009 NPC

Since the filing of the 2009 NPC, the overall development program of the SWSA Redevelopment Program has not changed; however, conceptual design has continued to progress and some refinements have been made to certain elements of the proposed program. Table S-1 below summarizes the key changes since the 2009 NPC.

Table S-1
Summary of Concept Refinements since the 2009 NPC

Environmental Impact Category	Description
Stormwater Management	Through the continued development of the conceptual layout design, the stormwater management plan progressed. The proposed program will create additional pervious surface area (for an overall total of approximately 7.7 acres) through the implementation of the proposed landscape/open space and pedestrian plan. Refer to Chapter 5, <i>Drainage and Wastewater</i> for further details.
Surface Transportation	In response to public comments related to the relocation of the Bus and Limousine Pools from the SWSA to the North Service Area (NSA), Massport is committed to restricting temporary traffic associated with the Bus and Limousine Pools from using Chelsea or East Boston roadways. Required routes, as specified on Figure 3.20, will be posted on maps within the new bus/limousine pool lounge building and Massport will monitor Neptune Road and Frankfort Street for vehicles diverting from the required routes and issue sanctions for any non-compliant bus and limousine companies or operators. Access and egress routes and assignment of traffic have been adjusted to avoid the Neptune Road and Bennington Street area under the 2013 No-Build/No-Action Condition. Although longer, the proposed access and egress routes for the Bus and Limousine Pools will use only regional highways or Massport roadways. The revised impact analyses of the temporary construction traffic in the NSA and the associated air quality changes is provided in Chapter 6, <i>Construction</i> .



¹² DEP comment letter dated September 26, 2008 (received by the MEPA Office on September 30, 2008).

Table S-1
Summary of Concept Refinements since the 2009 NPC (continued)

Environmental Impact Category	Description
Air Quality/Noise/Light Spill	In response to public comments related to enclosing the Garage Structure, the design team evaluated a range of options for providing some level of enclosure to the Garage Structure. Rather than full enclosure (which would require significant mechanical system additions and changes, including much higher stationary source GHG emissions) and to avoid impacts related to mechanical systems for the Garage Structure, the design team has developed architectural façade treatments that have been designed to screen the adjacent community from air emissions, noise, and light spill. The proposed façade treatments minimize openings on the southern and western facades (to be approximately 80 and 50 percent enclosed, respectively) while providing the required natural ventilation for an 'open parking garage', as defined by the state building energy code. This evaluation is presented in Chapter 4, <i>Air Quality and Noise</i> .

Agency Coordination Following the 2009 NPC

Massport has coordinated with federal, state and local agencies, including the U.S. Department of Transportation staff in Washington D.C. and the FHWA regional office in Cambridge. Regarding the proposed intersection and signal improvements, Massport has met with MassDOT Highway Division's District 4 and the Public/Private Development Unit as well as the City of Boston traffic personnel.

Massport will also meet with the Massachusetts Bay Transportation Authority regarding the improvements proposed for the curbs at the MBTA Blue Line Airport Station (as part of the Unified Bus System).

Potential Permits and Approvals

Table S-2 below presents the permits and approvals that may be required for the SWSA Redevelopment.

**Table S-2
Required Permits and Approvals**

Agency	Permit/Approval	Compliance
Federal		
U.S. Environmental Protection Agency (EPA)	NPDES General Permit for Stormwater Discharge from Construction Activities	The proposed program will be in conformance the current airport NPDES permit requirements (effective on September 29, 2007).
	Stormwater Notice of Intent	A Notice of Intent and a Stormwater Pollution Prevention Plan (SWPPP), incorporating Best Management Practices (BMPs) and including inspections, will be filed by Contractor.
Federal Aviation Administration (FAA)	Environmental Assessment (EA) under NEPA	The 2008 Draft EIR/EA and this Final EIR/EA are provided to fulfill the EA requirements under NEPA.
	Compliance with the General Conformity Rule of the federal Clean Air Act (CAA)	The proposed program will not cause or contribute to any new NAAQS violation in any area, will not increase the frequency or severity of any existing NAAQS violation in any area , and will not delay timely attainment of any NAAQS or any required interim emission reduction or other milestones in any area, thereby conforming with the Massachusetts State Implementation Plan.
	National Historic Preservation Act Section 106 compliance	The proposed program will result in no effect to any significant historic, prehistoric or cultural resources, or to any National Register listed or eligible property.
Commonwealth of Massachusetts		
MA Department of Environmental Protection (DEP)	Sewer Connection Permit	Any new sewer and drain connections will conform to DEP and BWSC standards and specifications, as applicable.
	Oil/Water Separator Permit	All garage runoff will be treated with an oil/water separator. Permit will be obtained from Massachusetts Water Resources Authority.
	Emergency Generator Certification	To be completed by the contractor
	Minor Modification of Title V Operating Permit	The Title V Air Operating Permit for this airport was issued in September 2004 and covers all of the Massport-operated stationary sources. Massport, as required, will report on any changes, which could impact overall emissions related to the SWSA Redevelopment Program in its annual EDRs.
	Notice Concerning Commencement of Construction and Demolition	Before commencing demolition of buildings or structures, MPA will require that its contractors file the proper notice with the DEP Northeast Region, as required by 310 C.M.R. 7.00.
	Notice Concerning Asbestos Removal	Before commencing demolition or renovation work in buildings or structures identified as containing asbestos-containing materials, MPA will require that its contractors file the required Asbestos Notification Form (ANF-001) with DEP Northeast Region, as required by 310 C.M.R. 7.15, and with the Division of Occupational Safety of the Department of Labor and Workforce Development (separate notification to U.S. EPA is not required in Massachusetts). The ANF will be filed not less than 10 working days before start of work.

**Table S-2
Required Permits and Approvals (continued)**

Agency	Permit/Approval	Compliance
MA Department of Environmental Protection (DEP) (continued)	Soil Management Plan	Massport will develop a Soil Management Plan to address the potential for releases of oil or hazardous materials during excavation of the SWSA and that meets the requirements of the MCP and the existing Activity and Use Limitations (AULs) in effect for portions of the SWSA. The plan will be prepared by a Massachusetts Licensed Site Professional, who will also be responsible for overseeing its implementation. The plan will include provisions for soils testing to determine whether soils can be reused on- site, whether over-excavation is necessary, and what reuse or disposal options are available for soils that must be removed from the SWSA. All soils transported off-site will be tracked using the DEP Material Shipping Record, Bill of Lading, or Uniform Waste Manifest, as appropriate.
Massachusetts Department of Transportation (MassDOT) Highway Division	Traffic Signal Permit for Frankfort Street/Lovell Street traffic signal	MPA will coordinate the required permit through MHD's design and approval process.
Massachusetts Department of Public Safety	Construction Permit	A building permit will be required prior to the commencement of construction.
Massachusetts Water Resources Authority (MWRA)	Industrial User Permit	The permit from MWRA will be completed for the garage and QTAs.
	Site Dewatering Permit	No discharge to the sewer system is expected during construction.
Massachusetts Coastal Zone Management (CZM)	Federal Consistency Determination	As summarized in Table 7-1 of the Draft EIR/EA, the proposed program complies fully with the applicable policies of the Massachusetts Coastal Zone Management Program.
City of Boston		
Boston Conservation Commission (BCC)	Order of Conditions	Massport will file a Notice of Intent for work proposed within the buffer zone of the Boston Harbor. A BCC hearing was held on February 17, 2010 to address the proposed work on Lot B (for temporary relocation of the Taxi Pool during construction). A second meeting regarding work in the buffer area within the SWSA will be required.
Boston Water and Sewer Commission (BWSC)	Site Plan Approval	Any new sewer and drain connections will conform to BWSC standards and specifications. Massport will also submit a General Service Application and Site Plan to the BWSC for review and approval.
Boston Public Works Department (BPWD)/Boston Transportation Department (BTD)	Approval for Maverick Street Improvements	If physical modifications are required on Maverick Street, Massport will coordinate with BPWD/BTD and seek approval of the modifications from the Public Improvement Commission (PIC).
	Curb Cut	A permit will be filed with the City DPW for all new curb cuts at the Maverick Street gate location.

Federal Requirements

Because of the Federal Aviation Administration's (FAA) approval of the Airport Layout Plan and anticipated federal financing assistance, the SWSA Redevelopment Program will entail a federal action and trigger the applicability of the National Environmental Policy Act (NEPA) of 1969, as amended. The FAA determined that the proposed SWSA Redevelopment Program requires the preparation of an Environmental Assessment (EA). An EA presents information about a project specifically required by NEPA, the Council on Environmental Quality (CEQ), and the FAA. For this EA, the FAA is the lead federal agency and the Federal Highway Administration (FHWA) is a Cooperating Agency.¹³ The FAA and the FHWA have reviewed this Final Environmental Impact Report (EIR)/EA.

Chapter 8, *Federal Requirements*, along with the other chapters of this Final EIR/EA, presents information concerning the SWSA Redevelopment Program, in compliance with NEPA, the NEPA Regulations of the CEQ and the NEPA requirements of the FAA. This EA and the analyses contained herein have been prepared by Massport with the supervision and guidance of the FAA, and have been presented to the FAA for review, comment, and adoption. The EA has been signed by the FAA and, therefore, is officially adopted where the FAA may use it to determine whether to make a Finding of No Significant Impact (FONSI). The SWSA Redevelopment Program has been reviewed for consistency with the FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures* and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*.¹⁴ Based on its evaluation of the environmental impacts under the federal thresholds, FAA has included a draft FONSI for public review. Refer to Appendix H for the draft FONSI.

Summary of Alternatives

Chapter 1, *Proposed SWSA Redevelopment Program* provides an expanded discussion of alternatives, including a re-evaluation of alternative sites and consideration of below-grade Garage Structure levels, in accordance with the Secretary's Certificate on the 2009 NPC. Chapter 4, *Air Quality and Noise* presents an evaluation of enclosing the Garage Structure.

Chapter 2, *Alternatives* of the 2008 Draft EIR/EA evaluated feasible alternatives to the proposed SWSA Redevelopment Program consistent with the Purpose and Need. To set the stage, the chapter explained the rental car industry airport operations, customer profile and operational profile at Logan Airport to provide important insights into how Massport developed and evaluated a range of alternatives. It then described the siting process, including planning goals and criteria for the consolidated rental car facility, which included a number of on- and off-airport siting options. Based on the siting process, other potential on-airport locations are already programmed for other airport uses and are not large enough (for example, the Robie Parcel is approximately 7 acres and the North Service Area is approximately 9.5 acres). Refer to Chapter 1, *Proposed SWSA Redevelopment Program* for a summary of the siting process.

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¹³ An agency having expertise on an environmental issue or jurisdiction by law may be a cooperating agency in the NEPA process. A cooperating agency has the responsibility to assist the lead agency by participating in the NEPA process including reviewing portions of the environmental assessment which the cooperating agency has special expertise.

¹⁴ Federal Aviation Administration, United States Department of Transportation, *Federal Aviation Administration Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 28, 2006.

Chapter 2 also presented two alternative site layouts that were considered through the conceptual design process. These alternatives were not carried forward due to inefficient circulation, and they did not effectively meet program needs.

The SWSA was identified as the preferred site for a consolidated rental car facility because it is the only on-airport parcel, compared to the other sites evaluated that:

- Is large enough to adequately fit the ConRAC facility and other Program elements;
- Would make efficient use of available on-airport land (the most adequately-sized on-airport parcel available for redevelopment);
- Is closest to the main circulation roadways, terminals and regional highway network providing an excellent level of ground access;
- Would utilize existing airport ground transportation infrastructure;
- Would facilitate pedestrian, bicycle and transit accessibility by locating the facility within walking distance to public transportation; and
- Would provide environmental benefits (e.g., improved air quality through reduced vehicle-miles-traveled).

Analysis Conditions

In accordance with MEPA and NEPA guidelines, a comparison between the future No-Build/No-Action and Build Conditions of the same year show operational changes that are projected to occur as a result of the Program. The analysis conditions and forecast assumptions for passenger levels assumed in the environmental impact analyses have been revised and updated since the 2008 Draft EIR/EA, as discussed in the October 2009 NPC. While the environmental impact analysis assumptions have changed due to the temporary reduction in passenger levels and rental car transactions, thus, resulting in lower environmental impacts, the mitigation and beneficial measures proposed for the Program have not been reduced and continue to be proposed as part of the Program as they were in the 2008 Draft EIR/EA.



Forecast Assumptions

Since the filing of the 2008 Draft EIR/EA, two changes have occurred that alter the future growth projections, which are used to estimate future traffic volumes for the 2009 NPC Program. Following 2007, Logan Airport experienced a reduction in passenger levels. Examination of air passenger enplanements and rental car transactions after 2007 indicates that passenger levels have dropped by approximately 11.5 percent. Passenger forecasts for the 2009 NPC were therefore lowered to account for the anticipated near term reduction in air passengers. The growth projections for the Program assumes recovery to 2007 passenger levels by 2013, followed by 2.3 percent annual increases between 2013 and 2018. This would result in a net increase of 12 percent for 2018 traffic volumes over 2007 levels (compared to 25.5 percent in the 2008 Draft EIR/EA). This forecast adjustment results in trip generation and VMT calculations for the SWSA that would be less than the results presented in the 2008 Draft EIR/EA.

The revised construction schedule indicates a date of beneficial occupancy (DBO) for the facility of 2013 which shifts the required future planning horizons to 2013 and 2018, from the 2012 and 2017 planning horizons used in the 2008 Draft EIR/EA. Due to changes in construction phasing, the conditions for the 2008 Draft EIR/EA environmental impact analyses and the proposed Final EIR/EA are compared in Table S-3 below.

**Table S-3
Revised Analysis Years**

2008 Draft EIR/EA	2009 NPC/Final EIR/EA
2007 Existing Condition	2007 Existing Condition
2012 No-Build/No-Action Condition	2013 No-Build/No-Action Condition
2017 No-Build/No-Action Condition	2018 No-Build/No-Action Condition
2012 Build Condition (Phase I)	2013 Interim Build Condition
2017 Build Condition (Phase II/Full Build)	2018 Build Condition (Full Build)

The analysis conditions account for changes related to background conditions, or non-Program related changes within the vicinity of the SWSA and Airport, including Massport's plans for a bus maintenance facility ("BMF"). The BMF is a separately planned project to be located on-airport within the North Service Area (NSA) and is scheduled to be operational in 2012, following MEPA review and associated permitting. Additionally, Massport is planning the construction of an interim 1,000-space parking deck over the existing economy parking surface lot at the intersection of SR-2 and Prescott Street in the North Cargo Area (also known as the "Robie Parcel" – a site reserved for future aviation activity for the long-term). These commercial parking spaces are relocated and consolidated from elsewhere on airport (in accordance with the Parking Freeze) and are planned to be available by late 2010. Refer to Appendix D for further details.

Summary of Key Findings and Benefits

The SWSA Redevelopment Program will greatly enhance customer convenience for travelers renting cars while improving overall environmental quality. The following section summarizes the key findings of the environmental analysis conducted and describes the program-related benefits.



Site Planning and Sustainable Design

The proposed SWSA Redevelopment Program is founded on the following principles of sustainable design site planning:

- The SWSA is the only on-airport parcel large enough to adequately accommodate the ConRAC facility and other Program elements;
- Efficient use of the SWSA (the only adequately-sized on-airport parcel available for the proposed program);
- Efficient use of existing airport access roadways and ground transportation infrastructure;

- Efficient use of the SWSA's proximity to airport facilities (i.e., terminals) and regional highway network;
- Incorporation of sustainable elements, such as the redevelopment of previously developed and underutilized land, creation of more pervious area, transportation improvements (e.g., the alternative fueled Unified Bus System), energy efficiency and renewable energy, potable water conservation, improved indoor air quality, environmentally-sensitive building materials, and recycling during construction and operations; and
- Application of the MA LEED Plus program requirements and Massport's Sustainable Design Guidelines while striving to achieve a LEED certification Silver rating or better.



Greenhouse Gas Emissions

In compliance with the *MEPA Greenhouse Gas Emissions Policy and Protocol* (as recently revised and effective February 3, 2009), Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment* presents an updated assessment of program-related Greenhouse Gas (GHG) emissions and estimated reductions due to program improvements. The key findings and benefits related to GHG emissions include:

- Mobile source GHG emissions associated with the program are predicted to decrease by 39 percent and 36 percent (for the Clean Diesel Hybrid and CNG fuel options for the Unified Bus System, respectively) when compared to the No-Build/No-Action Conditions. This decrease is primarily attributable to the forecasted decrease in VMT by the Unified Bus System, which includes a consolidated shuttle bus fleet combined with existing Massport buses and the utilization of clean/low-emitting fuel types.
- Stationary source GHG emissions associated with the SWSA Redevelopment Program will be reduced by a minimum of 20 percent when compared to the baseline condition, which assumes a conventional facility that meets the minimum requirements of the Massachusetts Building Energy Code (2008).¹⁵ The design approach applied for reducing overall energy demand, which results in reductions in direct and indirect stationary source CO₂ emissions, is three-fold:
 - Appropriately designed and sized building systems;
 - Incorporation of energy-efficient systems; and
 - Self-generation of energy (on-site renewable energy).
- The design goal for the Garage Structure is to maintain a building code classification of an 'open parking structure' to allow for daylight and natural ventilation, thereby, avoiding the need for a substantial amount of building conditioning (cooling and heating) systems resulting in increased energy use, which would result in greater stationary source GHG emissions and, thus, negatively impact local, regional and global air quality. The addition of these conditioning systems would also result in higher project costs.



¹⁵ Massachusetts Building Code, 780 CMR, 7th Edition (2008).

- The minimum 20 percent reduction in overall energy usage would be achieved through a combination of building design and system improvements over minimum MA Building Code requirements. Strategies include:
 - Reduced lighting intensities (watts per square foot) in the Garage Structure and in the surface parking lots;
 - Efficient heating and cooling systems in the conditioned buildings (CSC and QTA buildings); and
 - Utilization of on-site renewable energy source (e.g., solar/wind) that will supplement a minimum 2.5 percent of the overall electricity demand.



Transportation and Parking

The SWSA Redevelopment Program will improve transportation and parking facilities at Logan Airport. The following are key findings and benefits related to the updated traffic analysis for the Program, as presented in Chapter 3, *Surface Transportation*:

- Reduce the number of rental car shuttle buses by 70 percent (from 94 to 28 buses).
- Vehicle-miles-traveled from the individual rental car shuttle bus fleets and Massport bus routes are projected to be reduced by approximately 65 percent through implementation of the Unified Bus System. This equates to a reduction of approximately 4,865 vehicle miles daily and a savings of around 400,000 gallons per year of fuel (depending on the Unified Bus System fuel option) and a reduction of around 5,000 tons per year of CO_{2e} emissions.¹⁶
- The resulting air quality benefits from the Unified Bus System would be further enhanced by Massport's commitment to use a clean-fuel low-emissions shuttle bus fleet.
- Without the SWSA Redevelopment Program and associated ground access improvements, the projected growth for most of the current major uses in the SWSA (rental cars, taxis, limousines) would lead to a degradation of the surrounding airport roadway and traffic congestion during Future No-Build/No-Action Conditions.
- With shuttle bus consolidation into the Unified Bus System, the projected Build traffic volumes entering and leaving the SWSA would be approximately two percent less than the traffic volumes associated with No-Build/No-Action Conditions.
- The consolidation of rental car operations, combined with proposed roadway infrastructure improvements, would improve traffic operations at the study area intersections. Proposed ramp, roadway and intersection improvements would result in peak hour traffic and daily VMT totals that are lower than the 2013 and 2018 No-Build/No-Action Conditions.
- The Program would improve pedestrian and bicycle connections to the SWSA, the community, and



¹⁶ Carbon dioxide equivalents (CO_{2e}) provide a measurement of defining the total impacts (increasing or decreasing) of the key greenhouse gases (GHG). Typically, the CO_{2e} is used to represent the GHG-related emissions regulated under the Kyoto Protocol. These GHG emissions include Carbon dioxide (CO₂), Methane (CH₄), Nitrous oxide (N₂O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulphur hexafluoride (SF₆). Each of these GHG pollutants have a different affect on Global Warming. This affect is used to convert the impact of each GHG pollutant to CO₂. While GHG emissions include several gases, CO₂ was selected for being the base because it is the most significant component of GHG emissions.

the Airport, and provide secure and covered bicycle storage at the CSC and QTA buildings for employees, customers and the general public, as well as shower/changing facilities within the QTA buildings for employees.

- Transportation Demand Management (TDM) measures will be implemented.



Air Quality

Based on the air quality analysis Chapter 4, *Air Quality and Noise*, the following key findings of the SWSA Redevelopment Program related to air quality include:

- The Program would not result in significant air quality impacts to the surrounding community.
- The SWSA Redevelopment Program (specifically the Unified Bus System, which includes a consolidated shuttle bus fleet combined with existing Massport buses and the utilization of clean/low-emission fuel types) is a major component of Massport's overall goal to reduce motor vehicle emissions at the Airport.
 - The Mesoscale Emissions Inventory demonstrates an overall decrease in emissions (nitrogen oxides (NO_x), volatile organic compounds (VOCs) and carbon monoxide (CO)) when comparing the 2013 Interim Build and 2018 Full Build Conditions to the 2007 Existing Condition and future No-Build/No-Action of the same years¹⁷. The results are presented for two possible Unified Bus System alternative fueling options: (i.) Clean Diesel Hybrid and (ii.) Compressed Natural Gas (CNG).
 - Under both fuel type options, these reductions in NO_x, VOC, and CO emissions are attributable to: (i) a reduction in overall VMTs (associated with the rental cars and Unified Bus System); (ii) the upgrading of the shuttle bus fleet with new, lower NO_x-emitting vehicles; and (iii) the U.S. Environmental Protection Agency's (EPA) Federal Motor Vehicle Emissions Standards (FMVES) program (reflected in the MOBILE6.2 model).
- The SWSA Redevelopment Program would comply with the applicable State and Federal air quality standards and regulations as well as Massport's Air Quality Initiative.
 - The future-year, Program-related NO_x and VOCs emissions (the two primary precursors to ozone (O₃) formation – a pollutant for which the Boston area is declared “non-attainment”) and CO (a pollutant for which the Boston area was formerly designated “non-attainment”) are well within the federal CAA General Conformity Rule *de minimis* levels.
- Based upon Microscale Atmospheric Dispersion/Carbon Monoxide (CO) “Hot-Spot” Modeling results, CO and Particulate Matter (PM_{10/2.5}) concentrations in the vicinity of the SWSA (i.e., the neighborhoods of East Boston, including Jeffries Point) are expected to remain below the National Ambient Air Quality Standards (NAAQS) for these pollutants.



¹⁷ The construction-related VMT associated with the temporary relocation of the Bus/Limo and Taxi pools during the 2011 to 2015 construction period is included in the construction emissions inventory and discussed in Chapter 6, *Construction*.

- Based upon the CO “hot-spot” dispersion modeling, the highest predicted levels of this pollutant in the vicinity of nearby roadway intersections are also expected to remain below the NAAQS for this pollutant.
- The proposed Garage Structure is not expected to have a significant effect on pedestrian-level winds on or near the SWSA or in the adjoining neighborhoods.

The specific air quality benefits inherent to the SWSA Redevelopment Program, which would help to reduce NO_x, CO, and VOC emissions, both locally and regionally, include the following:

- Consolidating the on- and off-airport rental car operations into one shared ConRAC facility with a common shuttle bus system;
- A new, fuel-efficient/clean-fueled Unified Bus System, which would reduce VMT by consolidating the rental car shuttle bus fleets and combining the rental car shuttle bus routes with existing Massport bus routes (between the MBTA Blue Line Airport Station and the main terminals);
- Roadway and intersection improvements and traffic signal upgrades both on- and off-airport (including signal system improvements at Frankfort Street/Lovell Street near the North Service Area (NSA) for the temporary relocation of the Bus and Limousine Pools), which would improve traffic flow, reducing stop-and-go driving, and reduce excess motor vehicle emissions;
- A dedicated service road and loop at the Garage Structure will provide efficient pick-up/drop-off to terminals and other ground transportation facilities and reduce emissions;
- Improved access to public transit at the MBTA Blue Line Airport Station and the Silver Line stop at Terminal A for ConRAC employees and customers;
- New pedestrian and bicycle facilities/access to the SWSA for ConRAC employees and/or customers;
- Requiring rental car companies to join the Logan Employee Transportation Management Association (TMA) to promote alternative employee commuting options (reduce single-occupancy vehicles); and
- Requiring construction contractors to install emission control devices on certain equipment types (i.e., front-end loaders, backhoes, excavators, cranes, and air compressors).



Noise

As presented in Chapter 4, *Air Quality and Noise*, key findings and benefits of the Program related to noise include:

- The Program would not result in significant noise impacts to the surrounding community.
 - Day-night average noise levels (DNL) from SWSA on-site sources under the 2018 Build Condition would be lower throughout the surrounding community than under the 2018 No-Build/No-Action Condition.
 - Overall combined DNL noise levels from both on-site and off-site sources for the 2018 Build Condition would be equal to or lower than the noise levels under the 2018 No-Build Condition throughout the community.

- Based on the modification to the Garage Structure (location, reduced height and design), sound paths from the façade to homes are more distant compared to the location of the Garage Structure under the 2008 Draft EIR/EA. As a result, previously expected increases of noise levels from single events, such as car door slams and alarms, from the upper levels are reduced when compared to the 2008 Draft EIR/EA.
- Traffic noise associated with the rental car shuttle bus fleets would be reduced with the Unified Bus System (because individual buses for each rental car company would be consolidated into a common shuttle system) and because the Unified Bus System would operate farther away from the airport edge and community on the opposite side (airside) of the Garage Structure compared to the 2007 Existing and future No-Build/No-Action Conditions.
- The Bus and Limousine Pools currently exist at the SWSA. Noise levels associated with the Bus and Limousine Pools under the 2018 Build Condition would be less than the 2007 Existing and 2018 No-Build/No-Action Conditions due to the proposed noise barriers that would not be present otherwise.
- Noise abatement elements have been incorporated into design and site landscaping and improvements to QTA facilities are proposed to ensure that potential increases in noise levels are mitigated.



Natural Resources and Drainage

In compliance with the DEP 2008 *Stormwater Management Standards*, Chapter 5, *Drainage and Wastewater* presents an updated stormwater management plan. Key findings and benefits related to stormwater drainage include:

- There are no state-regulated wetland resources areas present within the SWSA site boundaries; however, a small portion of the SWSA is within the 100-foot buffer zone of the Boston Harbor (Coastal Bank).
- According to the *Massachusetts Natural Heritage Atlas* (13th Edition), no Estimated Habitats of Rare Wildlife, Priority Sites of Rare Species Habitat, or Certified Vernal Pools exist on or near the SWSA.¹⁸
- Under the 2007 Existing Condition, the stormwater system for the SWSA consists of catch basins and underground piping that flow to Maverick Street Outfall, which drains stormwater from the Maverick and Harborwalk drainage areas, and to the Porter Street Outfall. (Both outfalls discharge to the Boston Harbor.)
- Under the 2007 Existing Condition, portions of the SWSA discharge stormwater to the BWSC Porter Street drain.
- Work within the 100-foot Coastal Bank buffer would include constructing portions of the extension of Tomahawk Drive and landscaping as well as reconfiguration of Lot B to accommodate the temporary Taxi Pool relocation. This work has been reduced as a result of the reduced Program as it no longer includes QTA service areas within the buffer zone, as previously proposed.



¹⁸ MassWildlife Division of Fisheries & Wildlife, *Massachusetts Natural Heritage Atlas*, 13th Edition, effective October 1, 2008.

- Under the 2018 Build Condition, a total of approximately 7.7 acres of pervious surface area would be provided (an increase of 6.1 acres from the 2007 Existing Condition).
- Under the 2018 Build Condition, there would be no significant impacts to surrounding natural resources due to stormwater runoff from the SWSA or due to wastewater generation associated with the Program.
- In close coordination with the BWSC and DEP, the stormwater management plan has been designed to meet and/or exceed DEP's *Stormwater Management Policy and Guidelines*.¹⁹ The SWSA Redevelopment Program is expected to improve the quality of the runoff by:
 - Upgrading and centralizing stormwater management facilities of the SWSA;
 - Decreasing paved/impervious area and increasing landscaped area site-wide;
 - Replacing uncovered vehicle surface parking with buildings;
 - Reducing Combined Sewer Overflow (CSO) discharge volumes to the BWSC CSO where all stormwater will be conveyed to the existing Maverick Street Outfall; and
 - Reducing the peak flow rates from the SWSA during significant storm events.



Water Demand

The key findings and proposed benefits related to water demand include:

- The SWSA currently receives potable water from the City of Boston Water and Sewer Commission (BWSC) which obtains water from the Massachusetts Water Resources Authority (MWRA) system.
- The SWSA Redevelopment Program would require 105,012 gallons per day of potable water (including approximately 8,300 gallons per day for irrigation uses) which represents a reduction when compared to the 2007 Existing Condition water usage of approximately 150,171 gallons per day (of which the Flight Kitchen utilizes approximately 72,000 gallons per day). (*Note: Water demand projections for the 2018 Build Condition do not account for the proposed efficiency performance criteria, per MA LEED Plus requirements.*)
- Compared to the 2018 No-Build/No-Action Condition water demand, by which time the Flight Kitchen has been removed from the SWSA, as an independent action, the Program requires approximately 11,852 gallons per day more of potable water.
- In accordance with the goals of the MA LEED Plus program, the SWSA Redevelopment Program aims to reduce water use demand by a minimum of 20 percent (to aim for a 30 percent reduction) through the utilization of high-efficient, low flow plumbing fixtures, car wash water reclamation systems, and reduce irrigation water by a minimum of 50 percent through the use of efficient landscaping (e.g., use of low-water demand vegetation and native plantings; stormwater runoff collection with rain barrels and/or cisterns).



¹⁹ In response to DEP's comments on the 2008 Draft EIR/EA, Massport submitted supplemental information on stormwater management (dated February 25, 2009). This submittal was also included as Attachment D of the October 2009 NPC.

Wastewater Generation

As presented in Chapter 5, *Drainage and Wastewater*, key findings related to water supply and wastewater discharge include:

- The SWSA currently receives potable water from the City of Boston Water and Sewer Commission (BWSC) which obtains water from the Massachusetts Water Resources Authority (MWRA) system.
- The MWRA handles the wastewater generated from the SWSA, which is ultimately treated at the Deer Island Sewage Treatment Plant in Boston Harbor.
- The SWSA Redevelopment Program would generate approximately 95,465 gallons per day (based on DEP Title 5 guidelines), which represents a decrease of 41,054 gallons per day from the 2007 Existing Condition (136,519 gallons per day). (*Note: Wastewater generation projections for the 2018 Build Condition do not account for the proposed efficiency performance criteria, per MA LEED Plus requirements.*)
- Compared to the estimated wastewater generation for the 2018 No-Build/No-Action Condition, which includes the removal of the Flight Kitchen, the Program would generate an additional 10,774 gallons per day of wastewater (based on DEP Title 5 guidelines; does not account for proposed water/wastewater efficiencies) due to the consolidation and increased capacity of rental car operations at the ConRAC facility.
- As presented above under 'Drainage', due to the proposed outfall modifications the Program would eliminate stormwater runoff from the sewer system;
- In accordance with the goals of the MA LEED Plus program, the SWSA Redevelopment Program has been designed to include and/or implement:
 - A minimum 20 percent reduction in water usage;
 - A minimum 50 percent reduction in landscape irrigation; and
 - The continuation of reclaiming the car wash water during car cleaning/maintenance activities.

Soil and Groundwater Conditions

The key findings and benefits related to existing soil and groundwater conditions include:

- Activities within the SWSA, particularly storage and transfer of petroleum products, have resulted in releases to the subsurface. Releases of Oil and Hazardous Material (OHM) by tenants were reported to the DEP at ten locations in the SWSA, and assigned Release Tracking Numbers (RTNs) by the DEP.
- All of the RTNs have been closed out, with three resulting in the filing of an Activity and Use Limitation (AUL). The three AUL areas will require that a soil management plan be developed by a Licensed Site Professional (LSP) and submitted to the DEP prior to construction within those areas.

Based on the environmental impact analysis related to soil and groundwater conditions, the following are key benefits anticipated as a result of the SWSA Redevelopment Program:

- Decommissioning of the existing rental car facilities will include the removal of older fueling systems and associated tanks (in accordance with applicable public safety regulations), which will be replaced with new state-of-the-art systems.
- Remediating subsurface contamination encountered during tank removals or other excavation activities.
- Replacing open surface parking areas with a parking structure would reduce the runoff from parking lots and its incidental hydrocarbon loading.



Construction

As presented in Chapter 6, *Construction*, the key findings and benefits related to construction period impacts include:

- Construction impacts are temporary in nature and generally related to noise, air quality, soil erosion and sedimentation, truck traffic, and generation of hazardous and construction waste. These construction impacts will be mitigated by the adoption of appropriate construction methods, specifications, and monitoring.
- Massport will implement a construction phasing plan that would minimize disruptions in the SWSA and the entire airport.
- Foundation work, such as pile driving, will be arranged for minimal impact and would only occur for a relatively short period of time. Piles will be pre-augured through the upper 60 feet or more of soils, reducing the number of hammer blows required to seat the piles, therefore reducing the noise impact on the community.
- In order to reduce potential impacts from construction activities, Massport will implement a Construction Management Plan that will include:
 - Construction truck traffic routing on regional roadways and not on local/neighborhood streets.
 - An Erosion and Sedimentation Control Program to minimize construction phase impacts to the nearby water resources consistent with the existing NPDES permit for the airport.
 - A requirement that construction contractors install emission control devices on certain equipment types in order to reduce impacts to air quality.
 - Noise attenuation measures such as temporary noise barriers, re-routing traffic and/or equipment mufflers that may reduce temporary construction noise impacts within the surrounding community. Pile driving will be required to comply with a project-specific noise specification that will reflect the requirements of City of Boston noise ordinances, and will restrict the types of equipment that can be used and may limit the hours when certain activities can take place.
 - Recycling of the materials resulting from removal of the existing above ground building structures, along with the below-ground foundation slabs and footings, plus all other surface asphalt and concrete that is removed during demolition. Massport expects that a minimum of

75 percent of the construction waste will be diverted from landfills through reuse and/or recycling.

- Implement a Soils Management Plan to address the potential for releases of oil or hazardous materials during excavation of the SWSA and meets the requirements of the Massachusetts Contingency Plan and the existing Activity and Use Limitations in effect for portions of the SWSA.

Final EIR/EA Contents

The 2007 ENF was filed with MEPA on November 14, 2007, commencing the permitting and public review process for the SWSA Redevelopment Program. In response to the Secretary's ENF Certificate and Scope dated February 26, 2008, Massport submitted the joint 2008 Draft EIR/EA on June 27, 2008 for review and comment under both federal and state jurisdictions to reduce redundancy and streamline presentation. In light of long term economic trends affecting airport operations and existing economic constraints on airport capital programs as well as in response to community concerns, Massport subsequently re-evaluated and reduced the overall Program. As a result, the overall size and scale of the SWSA program was reduced by almost half, including the removal of the commercial parking component. As a continuation of the MEPA/NEPA public review process, the 2009 NPC was filed on October 15, 2009 and the Secretary issued a Certificate on the 2009 NPC on December 23, 2009. This Final EIR/EA specifically addresses the Secretary's Certificate on the 2009 NPC, which includes previous scope items included in the October 10, 2008 Certificate on the 2008 Draft EIR/EA, where applicable.

Each chapter of this Final EIR/EA begins with a bulleted list of key findings followed by a discussion of the project and the technical analyses that shape the program requirements for the redevelopment of the SWSA. The project approach has examined issues such as urban planning, landscape and architectural design, phasing, ground transportation operations and efficiencies, air quality, drainage, noise, construction impact, and sustainable design. The reasoning behind the study of each facet of the Program is fully explored, along with the key benefits that are derived from the proposed solutions.

Chapter 1: Proposed SWSA Redevelopment Program provides a detailed description of the proposed SWSA Redevelopment Program as it is currently proposed. This chapter also provides an update on the pedestrian environment, landscape buffer, and visual aesthetics and design.

Chapter 2: Sustainable Design and Greenhouse Gas Assessment documents the planning and sustainable guidelines that have directed the development of the proposed site plan and presents an updated assessment of program-related GHG emissions and presents the proposed improvements that would reduce GHG emissions.

Chapter 3: Surface Transportation includes an updated vehicle traffic impact analysis and presents proposed mitigation.

Chapter 4: Air Quality and Noise includes an updated air quality analysis and provides clarification on the modeling parameters and protocol for the mesoscale and microscale analyses, provides additional information with respect to CO emissions, and describes how cold starts and ultrafine particulates were considered in the air quality analysis. This chapter also includes an update to the noise impact assessment provided previously in the 2008 Draft EIR/EA.

Chapter 5: Drainage and Wastewater provides updated stormwater management approach, which demonstrates compliance with the DEP’s stormwater management regulations as well as a revised wastewater generation analysis.

Chapter 6: Construction provides the updated construction sequencing plan and environmental impact analysis to reflect the currently proposed Program.

Chapter 7: Beneficial Measures/Draft Section 61 Finding summarizes the proposed mitigation measures and/or commitments to measures that would benefit the environment and/or ground transportation operations at the airport.

Chapter 8: Federal Requirements provides additional documentation to support the FAA’s required Environmental Assessment (EA).

Chapter 9: Responses to Comments itemizes and responds directly to the Secretary’s Certificates on the 2008 Draft EIR/EA and 2009 NPC, and to the comment letters received on the 2008 Draft EIR/EA and 2009 NPC.

Supporting MEPA and technical appendices include:

Appendix A	Final EIR/EA Distribution List
Appendix B	List of Project Terms and Acronyms
Appendix C	Greenhouse Gas Assessment Supporting Documentation
Appendix D	Surface Transportation Supporting Documentation
Appendix E	Air Quality and Noise Supporting Documentation
Appendix F	Drainage and Wastewater Supporting Documentation
Appendix G	Draft Section 61 Findings
Appendix H	Federal Supporting Documentation

1

Proposed SWSA Redevelopment Program

Introduction

This Final Environmental Impact Report/Environmental Assessment (Final EIR/EA), if found adequate by the Secretary of the Executive Office of Energy and Environmental Affairs (EEA), represents the third and final step of the Massachusetts Environmental Policy Act (MEPA) review process, which began with the filing of the Environmental Notification Form (the “2007 ENF”) in November 2007. This Final EIR/EA is intended to: (i) address, where applicable, the outstanding issues associated with the review of the 2008 Draft EIR/EA; and (ii) further analyze and clarify the Program, as presented in the 2009 Notice of Project Change (the “2009 NPC”). This filing responds directly to the Secretary’s Certificate on the 2009 NPC, dated December 23, 2009. The document is also jointly filed as a Final Environmental Assessment (EA) in accordance with the requirements of the National Environmental Policy Act (NEPA).

The following chapter provides a description of the proposed SWSA Redevelopment Program, including its components: a consolidated rental car (ConRAC) facility with a Customer Service Center (CSC); Quick Turn Around (QTA) service facilities; a Unified Bus System; a retained Taxi Pool; a retained Bus and Limousine Pools; retained and relocated within the SWSA some of the long-term overflow commercial surface parking; and other ground transportation improvements. A summary of the planning process was presented as part of the 2008 Draft EA/EIR (Chapter 3, *Planning and Sustainable Design*) and is included below as a preface to the detailed description of the SWSA Redevelopment Program.

In accordance with the Secretary’s Certificate on the 2009 NPC, this chapter provides an updated description of the Program and addresses the following specific issues:

- Proposed pedestrian/bicycle improvements, including safety facilities;
- An update on urban design and landscaping, including the Phase 2 SWSA Airport Edge Buffer;
- An update on the visual impact analysis; and
- Reconsideration of alternatives sites in light of the Program changes and consideration of below-grade parking levels for the Garage Structure.

It is important to note that the SWSA Redevelopment Program is still in the conceptual design phase. The

information presented herein represents a snapshot of the status of the program design as of March 2010. As final design progresses, various elements will become more definitive including building façade treatment, landscape plans, and building support systems, such as mechanical, electrical and heating/cooling.

The SWSA Redevelopment Program accommodates the future airport ground transportation functions as well as the needs of the rental car industry at Logan Airport in an operationally-efficient manner that fulfills Massport's goal of delivering improved customer service at the airport. The Program better defines the southwest airport edge boundary, providing for the completion of the SWSA Airport Edge Buffer¹. The proposed Garage Structure is being designed with special attention to façade treatments of the two sides that face the community (the west and south facades), is expected to better shield the neighborhood from airport roadways and terminals.



Key Features of the Proposed Program Design

Key features of the SWSA Redevelopment Program include:

- New upgraded and consolidated rental car facilities providing more efficient operations and improved customer service;
- The incorporation of sustainable design principles in all aspects of design, construction, and operations, including an on-site renewable energy source (e.g., solar/wind) aimed at supplementing a minimum of 2.5 percent of the electricity demand of the proposed program;
- A Leadership in Energy and Environmental Design (LEED®) certified program design that would meet the requirements of the Massachusetts LEED "Plus" program, and strive to achieve a LEED Silver rating or better;
- A building orientation and façade treatment of the Garage Structure and support structures that aims to shield the adjacent neighborhoods from existing airport roadways and terminal areas as well as air emissions, noise, light spill, and visual impacts of the Program;
- The opportunity to create new pedestrian connections and enhance pedestrian environment with improved streetscapes and landscaping;
- Enhanced pedestrian and bicycle connections/facilities (e.g., secure bicycle storage); and
- The completion of the Phase 2 SWSA Airport Edge Buffer.

Overview of the Planning Process

As described in the annual Logan Airport Environmental Status and Planning Reports (ESPRs) and Environmental Data Reports (EDRs) dating back to 1993, Massport has been engaged in ongoing feasibility planning to replace and upgrade existing car rental and ground transportation facilities in the SWSA. Over



1 2007 Environmental Data Report for Boston-Logan International Airport, September 2008, Chapter 3, pg 3-12.

the last decade many major airports have constructed ConRAC facilities.² Travelers have come to expect the quality of service afforded by these types of facilities.³ In early 2006, Massport initiated a feasibility study for a consolidated rental car facility at the SWSA. The study examined program requirements and site location and layout alternatives, financing options, order of magnitude of costs, and environmental benefits. Following the feasibility study a concept planning and design process was commissioned and is currently progressing through the conceptual design stage, in accordance with the overall program schedule.

Following the feasibility study, an Environmental Notification Form (ENF) was filed with MEPA on November 14, 2007 commencing the permitting and public review process for the SWSA Redevelopment Program. An extended 59-day public review and comment period was held allowing state and local agencies as well as the public adequate time to review and comment on the ENF. A MEPA site visit was held on January 9, 2008. In response to the Secretary's January 30, 2008 Certificate on the ENF, Massport submitted a Draft EIR/EA for public review on June 27, 2008. An 82-day public review and comment period was held allowing state and local agencies as well as the public extended time to review and comment on the Draft EIR/EA. Massport held a number of public outreach meetings on the 2007 ENF and 2008 Draft EIR/EA, in addition to the mandatory MEPA site visit. Refer to the *Summary* chapter for a list of public outreach meetings.

Following the public review of the 2008 Draft EIR/EA, in light of long term economic trends affecting airport operations and existing economic constraints on airport capital programs as well as in response to community concerns, Massport re-evaluated and reduced the overall Program. As a result, the overall size and scale of the SWSA program was reduced by almost half. The primary change to the Program was **the removal of the commercial parking component from the Garage Structure**, which served to:

- Reduce the size of overall Program by approximately half;
- Reduce the height of the Garage Structure by one level, or 18 feet;
- Reduce the total number of structured parking spaces by 59 percent;
- Provide additional set-back of the Garage Structure from the airport property edge and the neighboring residential community;
- Retain the Bus and Limousine Pools within the SWSA;
- Retain and relocate within the SWSA some of the long-term overflow commercial surface parking;
- Eliminate the second phase of construction (now a single-phase project); and
- Combine the individual rental car shuttle buses and Massport Airport Station buses (routes 22/33/55) through a Unified Bus System, thereby reducing the rental car shuttle bus fleet size by 70 percent compared to the Future No-Build/No-Action Conditions (from 94 vehicles to 28 vehicles).^{4 5}



² A ConRAC is a facility that supports all or most rental car activities in a single convenient on- or off-airport location. Typical features include: Ready/Return parking areas; Vehicle service and storage areas; a Customer Service Center; and a shared mode of transportation, i.e., consolidated shuttle buses, or automated people mover, to/from terminals.

³ ConRACs are in operation at, but not limited to, BWI, Dallas-Fort Worth, Houston George Bush, Fort Lauderdale, Kansas City, Atlanta, Phoenix, and San Francisco. ConRACs are under construction at Miami, Providence, and Seattle airports, and are planned for Chicago-Midway, Columbus, Ohio, and Washington-Dulles.

⁴ All other Massport shuttle buses (long-term parking; employee lot; water taxi; Logan Office Center) will continue as currently operated.

⁵ The reduction in rental car shuttle buses represents an approximate fuel savings of 407,000 gallons per year and, therefore, emissions compared to the 2007 Existing Condition.

These changes would result in reduced program impacts, including:

- Further reduction in vehicle-miles-traveled (VMT) and associated air emissions as compared to the previously proposed Program;
- Additional pervious/landscaped areas site-wide; and
- Improved operational efficiency of the ConRAC facility through the reduction in floor area and volume of the Garage Structure.

As a continuation of the MEPA/NEPA public review process, the 2009 NPC filed on October 15, 2009 and presented the changes to the SWSA Redevelopment Program since the filing of the 2008 Draft. The 2009 NPC assessed the effects/benefits of the proposed changes, summarized the environmentally beneficial measures associated with the new Program, and proposed a revised scope for the Final EIR/EA. A 45-day public review and comment period was held allowing state and local agencies as well as the public extended time to review and comment on the 2009 NPC. Massport held public outreach meetings on the 2009 NPC during the 45-day public review period (refer to the *Summary* chapter for a list of public outreach meetings). The Secretary issued a Certificate on the 2009 NPC on December 23, 2009.

Chapter 3, *Planning and Sustainable Design* in the 2008 Draft EIR/EA outlined the planning and design process undertaken for the SWSA Redevelopment Program and documented how the Program would be consistent with state and local plans and policies. Consideration continues to be given to the following through the development of planning and design criteria:

- Community Impact;
- Sustainability/Environmental Impact;
- Urban Design;
- Landscaping;
- Pedestrian and Bicycle Facilities; and
- Architecture Design/Visual Impact.

The conceptual design approach for the SWSA Redevelopment Program continues to be guided by core goals established during the planning stages, including:

- Supporting Massport's commitment to environmental stewardship and sustainability;
- Enabling on a high level of customer service;
- Promoting efficient rental car company and Massport business and ground transportation operations;
- Responding to the shielding opportunities of the Garage Structure afforded by the Site's location between the airport and the East Boston community; and
- Addressing budget, constructability, building code, and schedule objectives.

The description of the Program's conceptual design, as described in the sections below, further address two primary areas of environmental consideration discussed in the Draft EIR/EA: (i) community impacts; and (ii) sustainable design opportunities. Since the 2009 NPC, the Program has not changed significantly with the

exception that the treatment of the Garage Structure facades facing the community (the western and southern sides) have been further enclosed in response to community concerns related to air emissions, noise, light spill, and visual impacts.

Consistent with the goals of Executive Orders 484 and 385 as well as and Massport's own sustainability policy and design and construction guidelines, the Program continues to design to sustainable design goals and objectives, where applicable and feasible, to all aspects of design from the very beginning.^{6,7} Consideration was also given to the operation of the facility, such as the Unified Bus System and rental car facility service activities. Natural ventilation of the Garage Structure, efficient lighting and conditioning systems (heating and cooling) as well as daylighting of interior spaces all aim to offset the energy consumption for the Program and are sustainable design initiatives that affect architectural form. Additionally, providing for on-site renewable energy technologies continue to remain key considerations through conceptual and final design. Discussion and illustration of updated architectural criteria and concepts is provided below. The proposed sustainable elements incorporated into the Program are presented in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment* and summarized in Chapter 7, *Beneficial Measures/Draft Section 61 Findings*.

SWSA Redevelopment Program

The SWSA is the ground transportation hub of the Airport. It currently accommodates seven on-airport rental car facilities, the Taxi Pool, the Bus and Limousine Pools, as well as a Flight Kitchen and long-term overflow commercial surface parking. Refer to Figures 1.1 and 1.2 for a site location map and aerial images of the SWSA. Refer to Figure 1.3 for the existing conditions of the SWSA. Independent of the Program, it is anticipated that the Flight Kitchen will be demolished and the operations consolidated either to a vacant building on-airport in the North Service Area (NSA) or off-airport in 2011 (the end date of the current lease agreement).

The SWSA Redevelopment Program proposes to reconfigure and improve existing ground transportation facilities to be more efficient and customer-friendly. Figure 1.4 shows the proposed site conditions under the 2018 Build Condition. Table 1-1 below summarizes the primary proposed elements of the SWSA Redevelopment Program by development phase, which generally include:

- A four-level Garage Structure with a Customer Service Center (CSC);
- Four service facilities with at-grade surface parking (QTAs);
- Retained Taxi Pool within the SWSA;
- Retained Bus and Limousine Pools within the SWSA;
- Retained and relocated within the SWSA long-term overflow commercial surface parking;



6 Executive Order 484: *Leading By Example – Clean Energy and Efficient Buildings*, effective April, 2007. Executive Order 385: *Planning for Growth*, effective April, 2002.

7 Massachusetts Port Authority, *Sustainable Design Standards and Guidelines*, Version 1, June 2009.

- The Unified Bus System -- a consolidated clean-fueled rental car shuttle bus system that connects the ConRAC to the airport terminals and incorporates the existing Massport bus routes that serve MBTA Blue Line Airport Station (routes 22/33/55);
- Site improvements including roadway modifications, pedestrian and bicycle facilities; and
- Site landscaping, including realization of the Phase 2 SWSA Airport Edge Buffer.⁸

Table 1-1 below summarizes the primary proposed elements of the SWSA Redevelopment Program. The subsequent sections describe each program element in further detail.

Table 1-1
Proposed SWSA Redevelopment Program Summary

	Parking Spaces/ Vehicle Storage	Building Size
Project Site Area		± 49 ACRES
Garage Structure		
Building Footprint	NA	301,000 SF
Number of Levels (Height)	NA	4 Levels (47 FT)
ConRAC "Ready Space" vehicle storage ¹	3,120 spaces ²	1,212,500 GSF
Customer Service Center (CSC)	NA	113,000 GSF
Garage Structure SUB-TOTAL (Full-Build)	+/-3,120 spaces	+/-1,325,500 GSF
Quick Turnaround Areas (QTAs)		
Fueling/service areas	NA	112,000 GSF ³
Rental vehicle storage (at-grade, surface parking)	1,250 spaces	NA
Taxi Pool (at-grade, surface parking)	310 spaces	7,000 GSF
Bus and Limousine Pools (at-grade, surface parking)	370 spaces	2,500 GSF
Long-Term Overflow Commercial Parking Lot	233 spaces	NA
Program (Full-Build) TOTAL	+/-5,470 spaces	+/-1,447,000 GSF

FT = feet; SF = square feet; GSF = gross square feet

1 Includes "Ready Spaces" and vehicle storage. The number of vehicle storage spaces is approximate; the planned number will vary depending on RAC operational practices, seasonal variations, fleet composition, inventory management, and/or demand profile. Storage spaces used for rental car operations are not regulated under the Logan Airport Parking Freeze.

2 Estimated net parking based on 340 sf/car of floor area, including all ramps.

3 Includes space under canopies and approximately 50,000 square feet of office space on a second level.



⁸ The Phase 2 SWSA Landscape Edge Buffer is described in the *Boston-Logan International Airport 2007 Environmental Data Report*, September 2008, Chapter 3, pg 3-12.

The proposed ConRAC Facility (including the Garage Structure, CSC and QTAs) proposes to consolidate the rental car companies' operations at Logan Airport into one location. This consolidation will also allow for the efficiency of combined operations for rental car companies back-of-house functions such as light service, car washing, and fueling for each family of rental car brands. The ConRAC facility will be served by the Unified Bus System – a combined bus system that will service the rental car companies and the MBTA Blue Line Airport Station and all terminals and utilize a clean/low-emission fuel type.

Since the filing of the 2008 Draft EIR/EA, due to the reduced Program, the period of construction has been reduced to a single-phase construction period rather than the previously proposed two periods of construction activity (Phase I and Phase II/Full-Build). Initial construction (enabling projects) is anticipated to commence in 2010. All ConRAC facilities (the Garage Structure, CSC, permanent QTAs 1 and 4, and temporary QTAs 2 and 3) would be constructed first. By early 2015, the entire Program would be constructed and operational. Another key change to the construction phasing includes the temporary relocation of the Taxi Pool to Lot B on Harborside Drive (in place of the Avis rental car operations). The construction traffic, air quality and noise analyses have been updated to reflect the projected traffic diversions and increase in VMTs associated with the changes to construction phasing. Refer to Chapter 6, *Construction* for the updated phasing descriptions and construction impacts analyses.

The following sections describe the Program components in detail.



Garage Structure

A key programmatic change to the SWSA Redevelopment Program includes removal of the commercial parking component from the Garage Structure (the approximately 3,000 existing on-airport spaces previously proposed for Levels 4 and 5). The currently proposed Garage Structure consists of two main components: 2,500 rental car “ready/return” parking spaces for customer pick-up (Levels 1-3); and 620 rental car storage with no public access (rooftop Level 4) for a total of 3,120 spaces. Entry to and primary exit from the Garage Structure would be via ramps along the south side. Separate and dedicated rental car employee access and rental car customer vertical circulation ramps are stacked along the west side of the Garage Structure.

The removal of the commercial parking spaces within the Garage Structure combined with a re-organization of and improvement to the design of the Garage Structure (which resulted in a reduction in rental car spaces) represents:

- A reduction of almost half in the overall gross square footage;
- A reduction of 40 percent in the building footprint;
- A 59 percent reduction in the number of structured parking spaces;
- A reduction in height from 65 feet to 47 feet (through a reduction in the height of each parking level as well as removal of a parking level previously proposed for commercial parking);
- An increase in set back from the airport edge and neighboring residential community (an additional 60 feet from the western edge for a total ranging from 470 to 620 feet away from the airport property edge and an additional 18 feet from the southern edge for a total of 80 feet away from the nearest home); and

- A shift (to the east) so that majority of the structure is shielded by the existing 18-foot noise barrier reducing visual impacts to homes on Maverick Street. This is expected to result in further reductions in noise, visual and light impacts.

Figure 1.5 shows a view of the Garage Structure from Tomahawk Drive. Shorter façade lengths and lower building height mean reduced visibility of the building to the community. The bulk of the Garage Structure is now hidden from Maverick Street, behind Massport's existing noise barrier. While meeting the Code requirements of an 'open' parking garage, as illustrated in Figure 1.6, the southwest corner of the Garage Structure will continue to be screened from the community (refer to Figure 1.7 for an illustration of the proposed façade treatments).

Customer Service Center

The CSC, which is adjacent to the Garage Structure, has been reshaped and reduced in size slightly (by 1,000 gross square feet) to better accommodate the reduced/revised program of the Garage Structure. Rental car customers will enter and exit on the east side of the building facing the airport, closest to the terminal area and access roadway by way of the Unified Bus System (described below). Customer access to the Garage Structure (Levels 1-3) from the CSC will occur via enclosed pedestrian passages along the west side of the CSC. The CSC will also include a Ground Transportation Unit Operations Center to support active management of the Unified Bus System.



Vehicle Fueling, Service, and Storage (QTAs)

Four rental car service and storage areas, commonly referred to as Quick Turnaround Areas (QTAs), would replace the six existing on-site QTAs and would be located east of Jeffries Street (Figure 1.4). The new QTAs will serve as limited service areas for car rental companies to perform fueling, cleaning, and light service activities as well as vehicle storage (approximately 1,250 additional surface storage parking spaces). The new QTAs would provide substantial improvements in fuel handling, water/wastewater management, and energy efficiency when compared to the six individual QTA facilities that currently operate on-site. Compared to existing operations, noise from blowers used to dry cars immediately after washing would be eliminated completely through use of new state-of-the-art car washes without blowers. The motors with fans used to generate suction for the vacuuming system would be placed in sealed enclosures at the proposed QTAs, thereby eliminating this noise source. Additionally, as previously proposed, solid fences/walls designed to reduce noise from activities at the QTA facilities (including car washing and vehicle movements) are proposed to border the facilities also providing a visual buffer as well as reduce intrusion from headlights into the adjacent community.



Unified Bus System

The 2008 Draft EIR/EA Common Shuttle Bus concept was re-evaluated to identify opportunities to combine the consolidated rental car shuttle service with other existing Massport airport bus services. A new combined bus fleet that would serve both ConRAC facility customers (replacing the eight on- and off-airport rental car

companies' individual diesel shuttle bus services) and MBTA Blue Line (Airport Station) riders (Massport airport bus routes 22/33/55) is proposed as part of the 2009 NPC Program. All other Massport airport buses (long-term economy parking; employee parking; water taxi; Logan Office Center) will continue. Refer to Figure 1.8 for an illustration of the proposed Unified Bus System compared to the existing individual rental car shuttle bus operations.

The proposed Unified Bus System would:

- Consolidate individual rental car shuttle bus fleets, eliminate and combine with Massport bus routes (22/33/55), and provide for roadway improvements and a dedicated ramp, all of which would result in reduced vehicle-miles-traveled (VMT), reduced curbside traffic congestion, improved customer service, and a safer, more manageable experience for pedestrians⁹;
- Reduce the rental car shuttle bus fleet by 70 percent (from 94 vehicles to 28 vehicles);
- Result in an over 65 percent reduction in VMT (and associated air emissions depending on which fuel type is assumed, as presented in Chapter 4, *Air Quality and Noise*) when compared to the 2018 No-Build/No-Action Condition;
- Utilize clean/low-emission fueled buses to further reduce air emissions;
- Result in a reduction of approximately 4,865 miles daily and a savings of around 400,000 gallons per year of fuel depending on the Unified Bus System fuel option (a reduction of around 5,000 tons per year of CO_{2e} emissions)^{10, 11};
- Provide new service for MBTA Airport Station riders to the Departures levels as well as the Arrivals of the Terminals and provide service to both the upper and lower levels of the ConRAC facility – all of which would improve customer service and operational efficiency, and reduces curbside congestion and associated emissions; and
- Include the installation of efficiency improvements and Intelligent Transportation System (ITS) elements (described further below under the 'Transportation Improvements' section).

The Unified Bus System includes a proposed ramp connection off of the existing airport roadway SR-14 to the second level of the CSC. This allows separation of the boarding and alighting movements from the proposed Arrivals and Departures routes. The proposed consolidation of the Hotel Drive signalized intersections with Ramp D-S and SR-2 will improve the efficiency of the proposed routes by limiting stopped delays at traffic signals and reducing route distances. Curbside improvements at Airport Station would be included as part of the Unified Bus System to allow separation of the boardings and alightings from the proposed Arrivals and Departures routes.

The evaluation of the Unified Bus System operations indicates that implementation would provide many benefits (operational and environmental), while providing both MBTA travelers and rental car customers

▼
⁹ The proposed roadway improvements are described under the 'Transportation Improvements' section herein.

¹⁰ The resulting air quality benefits from the Unified Bus System are presented in Chapter 4, *Air Quality and Noise*.

¹¹ Carbon dioxide equivalents (CO_{2e}) provide a measurement of defining the total impacts (increasing or decreasing) of the key greenhouse gases (GHG). Typically, the CO_{2e} is used to represent the GHG-related emissions regulated under the Kyoto Protocol. These GHG emissions include Carbon dioxide (CO₂), Methane (CH₄), Nitrous oxide (N₂O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulphur hexafluoride (SF₆). Each of these GHG pollutants have a different affect on Global Warming. This affect is used to convert the impact of each GHG pollutant to CO₂. While GHG emissions include several gases, CO₂ was selected for being the base because it is the most significant component of GHG emissions.

with enhanced customer service. Curbside congestion at the passenger terminals would be reduced with the elimination of multiple rental car shuttle buses accessing the curbsides simultaneously. Travel time for many of the rental car shuttle routes to and from the terminals will be improved compared to the existing service, which stops at each terminal dropping off and picking up passengers. The proposed Unified Bus System would be predominantly operated with Terminal A/B and Terminal C/E routes that will be either picking-up or dropping-off, not performing both actions. By combining the rental car shuttle bus operations with the Massport airport bus routes 22/33/55, customers would have direct access from public transit to rental car facility and vice versa making it convenient for the public, including rental car employees to take the MBTA to the airport to rent a car or travel to work. Additionally, MBTA travelers and rental car customers will travel from Airport Station directly to the Departures Level (riders are currently dropped off at the Arrivals level and use the terminal escalators or elevators to get to Departures level).



Other SWSA Facilities

Flight Kitchen

It is anticipated that the Flight Kitchen in the SWSA will be relocated either to a vacant flight kitchen building in the NSA or off-airport at the end of 2011 (the end date of the current lease agreement). The relocation of the Flight Kitchen has been analyzed as part of the background conditions as it is independent of the Program.

Taxi Pool

The taxi check-in, holding, and dispatch areas, or “pool,” will be re-located to the north of Porter Street in the area currently occupied by Avis. This new location provides the taxis more direct access into the terminal area roadways and maintains an efficient separation from other ground transportation traffic streams within the SWSA. The six-acre area could accommodate a slight increase in the capacity of the Taxi Pool to a total of approximately 310 queuing spaces. The proposed Taxi Pool layout is based on the current three-toll-plaza processing system, and includes automated vehicle identification (AVI) technology.

Bus and Limousine Pools

The Bus and Limousine Pool will be temporarily relocated to the NSA during construction and returned back to the SWSA (just west of its existing location east of Jeffries) upon completion of the ConRAC (Figure 1.4). The Bus and Limousine Pools would include a total of approximately 370 parking spaces and a 2,500 square foot administration building. Buses and limousine vehicles will access the SWSA off of Harborside Drive through a shared access with the retained and relocated within the SWSA long-term overflow commercial surface parking off of Tomahawk Drive. Impacts associated with this use would be comparable to the Existing and No-Build/No-Action Conditions for traffic and noise since they currently exist within the SWSA.

The improvements to the signal system and pedestrian improvements at the Frankfort Street/Lovell Street intersection at the NSA, as previously proposed, would be required to mitigate temporary impacts during construction and would remain in place after the Bus and Limousine Pools are relocated back to the SWSA.

The proposed intersection improvements would include new pedestrian ramps at each corner, crosswalks, pedestrian signals and sidewalk connection to the Bremen Street Park entrance. These improvements position the proposed signalized intersection as a vital node within the planned East Boston Greenway enabling pedestrians and bicyclists to safely cross Frankfort Street. The proposed intersection improvements are consistent with long-range regional and airport ground transportation plans that envision the Frankfort Street/Lovell Street intersection as a key intersection serving the East Boston Haul Road/Chelsea Truck Route and the Urban Ring Phase 2 (of the Regional Transportation Plan), both of which anticipate a traffic signal at this location, as well as a future NSA Airport Edge Buffer as part of the proposed Massport Bus Maintenance Facility. The conceptual on-airport Lovell Road/Dave's Way Connector previously proposed in the 2008 Draft EIR/EA is no longer proposed or required since traffic impacts of the Bus and Limousine Pool within the NSA would be temporary.

Long-Term Overflow Commercial Surface Parking

Some of the existing long-term overflow commercial surface parking spaces currently located in the southwest corner of the SWSA (the former U.S. Post Office site) will be retained and relocated within the SWSA as surface parking east of the proposed Bus and Limousine Pool (east of Jeffries). This lot will be further removed from residences than where the spaces are currently situated (Figure 1.4).



Common Elements

The ConRAC facility and other ground transportation facilities proposed for the SWSA would be served by the same roadways and utilities. The following describes the site-wide elements of the SWSA Redevelopment Program that are common to the Program.

Sustainable Program Elements

Massport's emphasis on responsible environmental management practices is a key component of Logan Airport's sustainability commitment. For example, Logan's Terminal A, the first LEED certified terminal in the world, has set a standard for future projects. A second example is the signature General Aviation (GA) facility, which is the only LEED certified GA facility in the United States. The SWSA Redevelopment Program, will also be designed, constructed and operated to be eligible for LEED certification. Massport will meet the requirements of the MA LEED Plus program (established by the Commonwealth's Executive Office for Administration and Finance) and strive to achieve a LEED Silver rating or better. Through monitoring and documentation at all stages of the project, environmental performance would be assessed, allowing policies and programs to be developed, implemented, and evaluated, that will further the integration of sustainable practices into every aspect of the proposed program. A key commitment that supports the overall sustainable goals for the proposed program is providing for on-site renewable energy (e.g., solar/wind) that will supplement at least 2.5 percent of electricity demand. A more detailed description of sustainable design elements being incorporated or evaluated for the SWSA Redevelopment Program is provided in Chapter 2, *Sustainable Design and Greenhouse Gas Assessment*, as well as in the technical chapters and Chapter 7, *Beneficial Measures/ Draft Section 61 Findings*.

Stormwater Management

Stormwater management facilities would be upgraded and/or modified in compliance with DEP's *Stormwater Management Policy and Guidelines* as part of the redevelopment of the SWSA. Refer to Chapter 5, *Drainage and Wastewater* for details on the proposed stormwater management system.

Water and Wastewater

Water supply and wastewater conveyance facilities would be upgraded and/or modified as part of the redevelopment of the SWSA. Based on DEP Title 5 guidelines, the estimated water usage for the Program is 105,012 gallons per day (including approximately 8,300 gallons per day for irrigation uses), which is less than the 2007 Existing Condition (131,234 gallons per day) and more than the 2018 No-Build/No-Action Condition (93,160 gallons per day). (*Note: Water demand and wastewater generation projections do not account for the proposed efficiency performance criteria, per MA LEED Plus requirements.*)

Based on DEP Title 5 guidelines, the estimated wastewater generation for the Program would total approximately 95,465 gallons per day. This is a decrease from the 2007 Existing Condition (136,519 gallons per day) and an increase compared to the 2018 No-Build/No-Action Condition (84,691 gallons per day).

In accordance with the goals of the MA LEED Plus program, the SWSA Redevelopment Program has been designed to include and/or implement:

- A minimum 20 percent reduction in water usage;
- A minimum 50 percent reduction in landscape irrigation; and
- The continuation of reclaiming the car wash water during car maintenance activities.

Other Utility Modifications

All existing underground utility systems would remain underground with the exception of those utilities that are in conflict within the proposed garage/structures layout. The utilities to be relocated beyond the building footprint generally include the electrical distribution systems, associated duct banks, the main telephone duct that runs north-south between Porter Street and Tomahawk Drive, and the 10-inch steam, 20-inch water, and 8-inch gas lines traversing the SWSA north to south. Utility services to the adjoining properties would be maintained at all times and transferred to their relocated locations when the new systems become available. Other utilities that mostly serve the individual buildings on-site (including the existing rental car facilities) would be abandoned and/or removed as appropriate.

Transportation Improvements

In response to the Secretary's Certificate on the 2009 NPC, Chapter 3, *Surface Transportation* presents an updated traffic analysis based on the revised program, as presented in the 2009 NPC. The main objective of the transportation improvements plan continues to be to create more efficient surface transportation operations at the SWSA and the Airport. The siting of the Program at the SWSA and the proposed Unified Bus System (described previously) in combination with the proposed pedestrian/bicycle design elements

would ease traffic impacts projected with and without the Program. Additional transportation mitigation (roadway and signal improvements) is proposed to facilitate the required site access and circulation, manage transportation demands, and improve the overall pedestrian and vehicle movement in the study area. The following improvements would benefit to the proposed program and the overall study area in terms of vehicular circulation/traffic and associated air emissions (analyzed in Chapter 4, *Air Quality and Noise*).

Access and Site Circulation

All main access points to the Unified Bus System customer pick-up/drop-off will be located on-airport to minimize traffic impacts on the surrounding residential neighborhood and to discourage cut-through traffic. The design of the Site incorporates interior circulation for all vehicular movements, away and/or buffered from the surrounding residential neighborhoods and streetscapes.

Access to and egress from the SWSA will utilize, in large part, the existing airport roadway infrastructure. The Program would provide separation of customer rental/return traffic from taxi traffic and from the Unified Bus System routes. The following modifications and/or improvements are proposed:

- Primary access to the SWSA would be provided by extending Hotel Drive across Harborside Drive and connecting to Tomahawk Drive;
- Primary egress from the SWSA would be an expanded and dedicated, one-way road (at Jeffries Street) to the airport roadway and the regional roadway/tunnel systems;
- Primary access to the northern area of the SWSA and egress to the Terminal Area Roadways would be provided through the Harborside Drive/Porter Street intersection;
- Modifications would be implemented to improve intersections at Harborside Drive/Porter Street and at Harborside Drive/Jeffries Street;
- Traffic signals would be upgraded at the same intersections as well as at any other necessary sites on-airport; and
- Porter Street would be realigned and expanded to accommodate the Taxi Pool.

Existing access to the Gove Street and Jeffries Point neighborhoods in East Boston would be limited to the following three locations, which would remain as part of the SWSA Redevelopment Program:

- Porter Street Gate (restricted to pedestrian and emergency vehicle access);
- Wellington Road Gate (restricted to pedestrian and emergency vehicle access); and
- Maverick Street Gate (restricted to East Boston resident vehicles via a proximity card controlled access point).

Roadway Improvements

As illustrated in Figures 3.12 through 3.18, the SWSA Redevelopment Program includes numerous roadway and intersection improvements as part of the proposed access and circulation pattern for the SWSA. While integral to the access proposal, it is important to note that the transportation improvements included in the

SWSA Redevelopment Program mitigate a number of projected No-Build/No-Action Condition issues regarding roadway and intersection capacity. The following is a summary list of physical transportation improvements included in the SWSA Redevelopment Program (a more detailed description of the improvements can be found in Chapter 3, *Surface Transportation*):

- Reconstructing Porter Street, including provision of a turnaround for exiting taxis.
- Reconfiguring SR-14 and new alignment of Ramp 1A-S.
- Constructing new Ramp S-D.
- Reconstructing traffic signals and pedestrian accommodations at three intersections:
 - Harborside Drive and Porter Street;
 - Harborside Drive/Jeffries Street; and
 - Harborside Drive/Hotel Drive.
- Reconstructing, widening and converting Jeffries Street to one-way northbound of Jeffries Street, between Harborside Drive and Tomahawk Drive.
- Reconstruction and extension of Tomahawk Drive as a one-way westbound roadway connecting Harborside Drive with the Maverick Street Gate and SWSA garage.
- Reconfiguring of inbound lane of the Maverick Street Gate to provide additional queue storage.
- Reconstructing of the Hotel Drive and Ramps D-S and the Hotel Drive and SR-2 intersections as one, consolidated signalized intersection.
- Reconstruction of the northern portion of SR-14 to provide a bus drop-off lane and curbside space for the proposed Unified Bus System's Arrival level buses.
- Signal improvements at the intersections of Frankfort Street and Lovell Street, and Harborside Drive and Hyatt Drive (as part of the 2013 Interim Build Condition due to the additional traffic associated with a relocated Bus and Limousine Pools and Taxi Pool).

Pedestrian and Bicycle Facilities

The SWSA Redevelopment Program will encourage employees and/or customers to walk and/or bike to/from the SWSA by providing an improved pedestrian/biking environment for employees, customers, and neighborhood residents. As described above under the 'Urban Design' section, on-site streetscape improvements and new pedestrian routes will improve connections between the neighborhood and the SWSA Airport Edge Buffer, Airport Station and existing airport facilities. Bicycle access and bicycle parking in secure locations would be provided for public and employee use. The SWSA Redevelopment Program will enhance pedestrian and bicycle safety through the design of streetscape, intersections, and lighting, and will define vehicular zones with new curbing, crosswalks, sidewalks, additional plantings, and ornamental fencing. In summary, these facilities aim to:

- Enhance existing access to the Harborwalk along the southeast edge of the SWSA (near the Maverick Street Gate);
- Enhance pedestrian access to and from Logan Airport Terminals, the Logan Office Center, Memorial Stadium Park, Bremen Street Park, the Harborwalk, on-airport shuttle buses, public transit (Airport Station), the Taxi Pool, and the surrounding East Boston neighborhoods;
- Enhance bicycle access to and from Memorial Station Park, on-airport shuttle buses, public transit (Airport Station), Greenway, Bremen Street Park, and surrounding East Boston neighborhoods;
- Limit employee parking;
- Encourage the rental car company employees and customers to access the ConRAC by walking, bicycling (by providing secure employee, customer and public bike storage/parking at the CSC and QTA buildings as well as employee shower/changing facilities within the QTA buildings), or using public transit;
- An enhanced pedestrian/bicycle route would be constructed from Maverick Street to the Memorial Stadium Park along the western edge of the SWSA and would include a landscaped buffer.
- Design all non-protected pedestrian crossings, located mid-block or at unsignalized intersections, would include enhancements to pedestrian safety, such as street and pedestrian-level lighting and advanced warning signs, and/or advanced warning systems;
- Complement existing pedestrian and bicycle corridors between the SWSA and the Airport Station as well as to bus and to the water shuttle stops;

Refer to Figure 3.24 for an illustration of the proposed pedestrian and bicycle facilities.

The implementation of the SWSA Redevelopment Program would provide pedestrian connections to and from the Terminals, the Hilton Hotel, the Logan Office Center, Memorial Stadium Park, the Harborwalk, on-airport shuttle buses, public transit (Airport Station), the Taxi Pool, and the surrounding East Boston neighborhoods. Dedicated pedestrian corridors would be provided near the perimeter of the SWSA Redevelopment Program. Pedestrian crossings would be provided at each signalized intersection along Harborside Drive and sidewalks along Harborside Drive, Jeffries Street and Porter Street. Along the western edge of the SWSA, an enhanced pedestrian route would be constructed from Maverick Street to the Memorial Stadium Park as part of the Phase 2 SWSA Airport Edge Buffer. Existing access to the Harborwalk along the southeast edge of the SWSA (near the Maverick Street Gate) will remain in place and would be enhanced with additional landscaping and safe pedestrian crossings and connections as part of the SWSA Redevelopment Program.

Figure 1.9 highlights the potential areas for conflict between pedestrians, bicyclists, and/or vehicles. To help provide safe conditions for pedestrian/bicycle crossings at these locations, various strategies will be employed to improve crossing visibility. Advance yield signs, high visibility markings and adequate lighting will help to make crosswalks, and the pedestrians within them, more noticeable to motorists.

Attention would also be given to the separation of pedestrians from rental car service activity and traffic, and other safety and security issues. Additionally, the west side of Wellington Street would be integrated into the landscaped buffer and pedestrian route where possible.

Entry points to the site system of pedestrian and bicycle routes from the neighborhood are planned for strategic locations, including the southeast end of Maverick Street at Jeffries Street, where the proposed path connection meets Maverick Street, and where Porter and Gove Streets enter the SWSA. These entry points represent some of the gateways into the SWSA, where a landscaped feature, signage and/or a small-scale work of public art could be located. In addition, more substantial gateway features are planned at the two primary entries to the ConRAC facility:

1. Tomahawk Drive/Harborside Drive intersection; and
2. Bus ramp over Porter Street.

These two locations would include landscape features, signage, lighting, and, possibly, large-scale public art installations.

Intelligent Transportation System Improvements

The Unified Bus System operation is expected to carry as many as 2,000 passengers per hour while operating two dozen buses at headways as short as three minutes. To ensure a high level of customer service, the SWSA Redevelopment Program will include a number of Intelligent Transportation System improvements.

- The Unified Bus System will be actively managed by dedicated staff and an operations center will be included in the ground floor of the ConRAC Customer Service Center building.
- The Unified Bus System will include expanded automatic vehicle locator systems for the buses, automatic passenger count systems for the buses, curbside camera systems, and dynamic messaging systems.
- The vehicle locator system will provide location, directional, and speed information on all buses. It is anticipated that dedicated short-range communication (DSRC) antennas, controllers and cabinets will be installed at strategic locations airport-wide to supplement existing coverage to a level appropriate with the desired Unified Bus AVL system.
- There will be monitoring links to existing camera systems at terminal curbs, and new weatherproof, pan/tilt/zoom capable camera systems installed to cover the Airport Station and ConRAC bus curbs.
- Three-line, monochrome LED dynamic message signs (DMS) will be installed facing doorways and at designated bus loading areas on the ground level Departures curb. Dynamic message signs will be installed at the Airport Station Departure bus lane and curbside.
- The operations center will be approximately 1,000 square feet and accommodate a minimum of two monitoring positions. The operations center will have communications equipment and connections, computers and monitors, and software to provide bus scheduling/tracking/camera control/feed/recording, DMS sign control, and real-time vehicle monitoring.

Off-Airport Improvements

The relocation of off-airport rental car companies to the SWSA and will result in reduced traffic on the Route 1A corridor. In accordance with the goals of the East Boston Parking Freeze, which encourages relocation of rental car spaces from the East Boston Parking Freeze areas onto the airport, the Program's expanded capacity

of rental car ready and return parking spaces and QTA areas on-airport would reduce the amount off-airport car shuttling, further reducing traffic on Route 1A.

Transportation Demand Management (TDM)

Massport is committed to providing a TDM program, in conjunction with the rental car companies that encourages use of alternate modes of transportation such as walking, bicycling, and public transit. TDM measures are typically targeted towards employees and the SWSA Redevelopment Program will include the most effective TDM measure, a significant limitation of on-site parking. However, the proximity of the SWSA to East Boston neighborhoods provides an opportunity to encourage pedestrian and bicycle users accessible routes through the SWSA. Refer to Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment* for the full list of proposed TDM measures.



Phase 2 SWSA Airport Edge Buffer and Other Site Landscaping

The SWSA Redevelopment Program would improve the surrounding Massport streets and streetscapes, and provide safe pedestrian crossings and connections to the Phase 1 SWSA Airport Edge Buffer, Memorial Park, the Airport MBTA Station and the Harborwalk. This would result in substantial improvements to neighborhood connectivity. Refer to Figure 1.10 for the overall site landscape plan for the SWSA.

In 1995, Massport committed up to \$15 million for the planning, construction, and maintenance of four buffer areas around Logan Airport under the Massport Airport Edge Buffer Program. Most of the Airport Edge Buffers have been completed, including the Bayswater Embankment, Navy Fuel Pier, and Phase 1 SWSA Airport Edge Buffer. In 2003, Massport provided approximately two acres of airport property to the City of Boston for Memorial Stadium Park. This area will act as a landscape buffer between Massport's Logan Airport property and Memorial Stadium Park (Figure 1.4). The general goals of the Massport Airport Edge Buffer Program are to:

- Beautify airport property that abuts neighborhoods through landscape and hardscape improvements;
- Define the airport/neighborhood edge;
- Support airport operations, maintenance and security needs; and
- Visually screen airport operations from the neighboring community.

Massport has committed to a two-phased airport edge buffer program for the SWSA. The Phase 1 SWSA Airport Edge Buffer, completed in the fall of 2006, included the construction of an approximately half-acre area with landscaping and lighting improvements along Maverick Street with evergreen and deciduous trees, ornamental shrubs, and groundcovers planted throughout the buffer area.

The Phase 2 SWSA Airport Edge Buffer would be implemented in conjunction with the SWSA Redevelopment Program and would continue to be designed with input from neighbors and other interested parties. Massport is involved with ongoing outreach to local governmental agencies, community groups, abutters, and state agencies.

The overall site landscaping design objectives include:

- Provide attractive landscaping that harmonizes with the existing airport plant palette;
- Provide sustainable landscaping that enhances environmental conditions;
- Provide an open space corridor with access from Maverick Street, Geneva Street, and Porter Street that accommodates pedestrian and bicycle circulation and improves connections to existing East Boston open spaces and public transportation;
- Provide a multi-use open space area that is accessible from Maverick Street, Geneva Street, and Porter Street that includes landscaping, seating areas, and attractive lighting and street furnishings;
- Provide landscaping along roadways that provides an opportunity for a safe and welcoming pedestrian and bicycle environment while unifying the overall roadway corridor;
- Provide landscaping at gateways to the site that would create an attractive and welcoming atmosphere at major pedestrian, roadway and building entrances; and
- Provide landscaping along the perimeter of Massport property that would beautify the airport edge and buffer the adjacent land uses from airport functions.

Landscape Zones and Treatments

In addition to the completion of the SWSA Airport Edge Buffer (Phase 2), the SWSA Redevelopment Program includes a series of additional landscape treatments along the site access roadways, at site entrances, and within the Site, including:

- **SWSA Landscape Areas:** This treatment will be applied to a portion of the Phase 2 SWSA Airport Edge Buffer area and other landscaped areas throughout the Site.
- **Connectivity Corridor Landscape:** This landscaping treatment is specific to pedestrian/bicycle corridors and will be applied to a portion of the Phase 2 SWSA Airport Edge Buffer area.
- **Gateway Landscape:** This treatment will be applied to landscaping at the entrances to the Program.
- **Roadway Landscape:** This treatment will be applied to landscaping along access roadways.

These proposed landscape treatment ‘zones’ are shown in Figure 1.11. Figure 1.12 illustrates typical landscaping sections and elevations for these zones.

SWSA Landscape Areas

The proposed ‘SWSA Landscape Areas’ treatment aims to provide a visual and physical barrier to screen the Program from surrounding uses and properties. Such areas include the perimeter of airport property, including a portion of the Phase 2 SWSA Airport Edge Buffer and areas adjacent to pavement, such as the QTA service areas and Taxi Pool as well as some areas internal to the site (Figure 1.11). The SWSA Landscape Areas treatment is currently designed to contain a combination of any or all of the following: deciduous trees; evergreen trees; shrubs; vegetative groundcovers; fencing; berms; and solid fences/walls.

Figure 1.13 illustrates a design option being considered for a portion of the Phase 2 SWSA Airport Edge Buffer located at the southwestern perimeter of the site. Treatments for this area could include 3- to 4-foot high landscaped berms and an approximately 6-foot high solid fence/wall at edge of Massport's property, which would provide both a visual buffer and help reduce noise levels from activities at the western. A three- to four-foot high landscaped berm would be constructed between Tomahawk Drive and the Harborwalk at the southeastern perimeter of the SWSA. The low berm, planted with deciduous and evergreen trees and shrubs, would effectively reduce traffic noise along the Harborwalk while maintaining views from Tomahawk Drive that would enhance the safety of pedestrians and bicyclists.

Where conditions permit, a continuous planting strip 8- to 10-foot wide at the perimeter of all QTAs would provide an ample buffer around the paved areas of the QTAs and provide adequate room for deciduous shade trees to thrive. Between the trees, a mixture of native low-growing deciduous and evergreen shrubs would help to screen parking areas, shield projecting headlights and filter noise. Along the edges of the QTAs, a 6-foot height fence will be located at the back edge of the planting strip. The wall would provide additional buffering of noise from activities at the QTAs. In addition, the solid fences/walls would provide a visual buffer and reduce intrusion from headlights into the adjacent community.

The perimeter of the Taxi Pool would have a planting strip with a mixture of deciduous shade trees and low-growing deciduous and evergreen shrubs that would help to screen the area and shield projecting headlights. The existing ornamental fence at the perimeter of Memorial Stadium Park would be retained and a strip of landscaping will be added to block the taxi pool from the Park.

Connectivity Corridor Landscape

As shown in Figure 1.14, the 'Connectivity Corridor Landscape' treatment will be employed at the western edge of the SWSA, in the portion of the Phase 2 SWSA Airport Edge Buffer that extends from Maverick Street to Porter Street. It would function as a multi-use open space corridor that accommodates pedestrian and bicycle circulation with a passive open space in the currently vacant parcel adjacent to Geneva Street. The connectivity corridor treatment would be applied to a portion of proposed Phase 2 SWSA Airport Edge Buffer.

The Connectivity Corridor Landscape treatment will include a 10- to 12-foot wide multi-use path that would provide a pedestrian and bicycle connection from Maverick Street to Porter Street. A 6-foot height fence would be located along the western airport property line. Gates in the fence, one located at the end of Gove Street and the other located at the passive open space area, could provide additional neighborhood entry points to the multi-use corridor. Mixed planting beds of deciduous and evergreen trees and shrubs along the property line fence would soften the fence and would help to screen adjacent parking and service areas while maintaining views that would enhance safety of pedestrians and bicyclists. At the Maverick Street, Porter Street, and Geneva Street entrances to the connectivity corridor, gateway landscape treatments would be used. The streetscape landscape treatment would be used in the area between the multi-use path and the Limited Access Road (Figure 1.11).

The proposed passive open space area adjacent to Geneva Street will be designed with input from the community and in concert with the landscape plan for both the new facilities and with the existing landscape program of the airport. Figure 1.14 illustrates a design option being considered for this passive open space. The open space could contain a plaza with bench seating and open lawn areas for unprogrammed activities.

Trees, shrubs and grasses that are native to coastal New England will be planted, possibly with interpretive plaques that provide details about the plants and their native habitat. The major access point to the passive open space area is expected to be from Maverick Street via a multi-use path designed to provide a pedestrian feel to the area while being wide enough to accommodate an emergency vehicle. One additional access point to the passive open space could be provided at Geneva Street. The existing, mature Pin Oak trees would be preserved and would frame the passive open space on the eastern side and provide a seasonal screen for the park users and the Geneva Street neighborhood. The land would be graded to gently rise two and a half to three feet towards Geneva Street, providing some noise attenuation for nearby residences.

Figure 1.14 illustrates a design option being considered for Porter Street and the Service Road that would make the area feel more pedestrian-oriented, attractive and welcoming. Flowering trees, shrubs and perennials would add color, visual interest and distinguish the area as both a gateway and neighborhood entry node. Low seat walls would provide informal seating areas and help to visually screen parking and service areas. Signage, identifying the area as the SWSA Airport Edge Buffer, could be incorporated with the seat walls. Decorative asphalt surfacing systems could be used for the crosswalk and intersection treatments.

Gateway Landscape

The proposed 'Gateway Landscape' treatment will be employed at major pedestrian, roadway, and building entrances to create an attractive and welcoming atmosphere. The Gateway Landscape will include landscaped areas containing a mixture of deciduous shade trees, flowering trees and shrubs, evergreens, flowering perennials, and vegetative groundcover. Special paving treatments, seating areas, signage, including monument/gateways signage, and pedestrian lighting would be provided, where appropriate.

The Tomahawk Drive/Harborside Drive gateway is a primary vehicular access point to the ConRAC facility and the Maverick Street Gate (Figure 1.15). The design features gateway specialty walls flanking either side of the intersection. The specialty walls would be configured to reduce the intrusion of noise from traffic on Harborside Drive into the Harborwalk and adjoining areas. Signage, identifying the ConRAC facility, could be incorporated with the wall. Consideration is being given to various options for enhancing the visual landscape of the public edges of the proposed redevelopment program. Flowering trees, shrubs and perennials would add color, visual interest and distinguish the area. Decorative asphalt surfacing systems could be used for the crosswalk and intersection treatments to increase motorist's awareness of pedestrians and bicyclists.

The Harborside Drive/Porter Street gateway is a primary pedestrian access point to the ConRAC facility (Figure 1.15). As currently conceived the design would feature shade trees and flowering trees in the center of the area where the foundations for the elevated bus loop structure would be located. The Gateway Landscape treatment is designed to help to screen service and parking areas located on the northern side of the ConRAC facility. Signage, or a monument sign identifying the ConRAC facility, could be incorporated with the wall. Various design options are being considered for the landscape area within the bus loop, such as mixed planting beds of deciduous and evergreen trees and shrubs, bioswales and/or storage of reclaimed stormwater.

In addition to the landscape proposed for the entire SWSA, the Program includes a specialty area in what is considered the front door of the facility. Due to the location of the CSC and garage in relationship to the curve in Harborside Drive, the site contains a large area along the east façade of the complex that has been

incorporated into the landscape plan for the improved SWSA. This area has been design to become an urban garden space that can be used by airport customers and employees alike. The space is situated just off the sidewalk along Harborside Drive. The pedestrian path is diverted from the streetscape edge, into this garden space, toward the CSC, and then back out to Harborside where it meets up with Jeffries Street. The space will contain benches for eating and low walls to contain the area. Planting within the space will be consistent with that of the SWSA as a whole and is meant to include some seasonal plants for additional color. The garden can be used for lunch breaks by Massport and RAC employees or as a waiting are for RAC customers looking for some time in an open air space. This garden aims to provide a visual presence for the proposed facility and will be coordinated with the Gateway landscape areas that are of similar importance.

Roadway Landscape

The proposed 'Roadway Landscape' treatment will be employed along all SWSA roadways to create a safe and welcoming pedestrian environment, unify the overall roadway corridor, and enhance environmental conditions by providing shade, reducing stormwater run-off, and filtering noise and light.

The Roadway Landscape will include landscaped areas adjacent to the roadways containing deciduous shade trees and mowed lawn or other vegetative groundcover consistent with the Logan Airport Edge Buffer landscape theme. Where conditions permit, the continuous planting areas would be 8- to 10-feet wide to provide an ample buffer between SWSA roadway traffic and pedestrians and bicyclists. Generous continuous plantings would also provide deciduous shade trees with a large area of soil to promote root growth, which is important for the healthy growth of trees. To achieve an uninterrupted canopy when the trees mature, deciduous trees in the continuous planting areas would be planted close together so that when the trees mature their canopy will provide uninterrupted shade for pedestrians. The spacing of trees would be coordinated with the placement of street lighting, signage, traffic signals and utilities. Appropriate sight triangles at intersections would be determined to avoid excessive setbacks for tree plantings while maintaining intersection safety. The trees will be spaced so as to provide a continuous canopy for shade in the summer. A minimum 8-foot wide concrete sidewalk would be located next to the landscaped areas.



Urban Design

Figure 1.16 shows the East Boston pedestrian/bicycle and open space context. Massport has planned and designed the SWSA Redevelopment Program in a comprehensive way to ensure that it is integrated into the fabric of the airport and neighborhood by incorporating pedestrian, bicycle and vehicular access for its users and surrounding community. Neighborhood connectivity would be enhanced with improved streetscapes and landscaped pedestrian corridors with safe pedestrian crossings connecting the SWSA to the SWSA Airport Edge Buffer, Memorial Stadium Park, the Airport T-Station, and the Harborwalk. The primary element for connectivity is the proposed multi-use path (pedestrian and bicycles) along the western edge of the SWSA between Maverick and Porter Streets, connecting Jeffries Point and Memorial Park. Refer to the previous 'Transportation Improvements' section for further details on the proposed pedestrian and bicycle facilities.

The existing pedestrian circulation system in the SWSA is fragmented and inhospitable. Existing sidewalks are located next to the busy roadways placing pedestrians uncomfortably close to the numerous vehicles traveling on this local connector roadway. With the exception of Harborside Drive, the existing roadways

surrounding the SWSA lack trees that would provide shade for pedestrians. Sidewalk widths such as those on Jeffries Street are generally not wide enough to accommodate two people walking side-by-side. Some of the older sidewalks do not meet current ADA requirements. Tomahawk Drive has a sidewalk on only one side of the street but it is not continuous, forcing pedestrians to either cross the street to remain on the sidewalk or walk along the edge of the roadway pavement. Wellington Street has no sidewalks. Therefore, pedestrians either walk in the street or on the path worn in the grass underneath the existing oak trees. Additionally, the existing pedestrian circulation system is disjointed and the numerous curb cuts needed for access to the individual rental car sites increase the potential for conflict between pedestrians and moving vehicles.

The landscaping for the SWSA Redevelopment Program is designed to enhance the proposed facilities, and the connections to the neighborhood abutting the SWSA. Under proposed conditions, the SWSA streetscape would include continuous landscaping with deciduous shade trees adjacent to all roadways with pedestrian corridors aimed at providing a more pleasurable walking experience by buffering pedestrians from SWSA-related traffic and QTA activities. In the summer months, the trees will shade the sidewalks and during the fall, they will enliven the streetscape by adding seasonal color. Additionally, physical enhancements, including lighting, benches, signage, plantings, fencing, walls, and paving materials would provide consistency and identity in this neighborhood. Refer to the 'Phase 2 SWSA Airport Edge Buffer and Other Landscaping' section below for further details on the proposed landscape plan.

With the planned changes in SWSA ground transportation functions, it will become increasingly important to keep the functions separated and shielded from the adjacent residential community. Therefore, all main access points to the Unified Bus System and customer pick-ups/drop-offs are located on the airport-side of the SWSA to minimize traffic impacts on the nearby residential neighborhood and to eliminate cut-through traffic. The design of the SWSA Redevelopment Program will incorporate interior circulation so that service and delivery activity would be set away and/or buffered from the streetscape.



Architectural, Aesthetic and Visual Considerations

The proposed buildings have been designed to be responsive to the surrounding neighborhood context. Building facades and other building elements close to, or viewed from local streets, homes and open space address visual, noise and light spill criteria. Greater attention to light control will be provided where façades and project light sources are close to neighborhood activity. Façade strategies for the Garage Structure (described below) will be a major factor in controlling light spill and the amount of light introduced into the adjacent community.

Architectural Design Criteria for the Garage Structure/CSC

As the design process progresses, the architectural design criteria continues to be refined with consideration to reducing community impacts and enhancing the environment. A summary of guidelines developed in response to community, environmental and sustainability issues include:

- Minimize the scale of the Garage Structure to the neighborhood by avoiding long, horizontal concrete spandrel treatment at upper levels, and at the southwest corner beyond the existing Maverick Street noise barrier.
- Reduce potential noise exposure from ConRAC facility operations to neighborhoods through improvements to operations (i.e., the QTAs), the use of façade treatments to the Garage Structure, and site noise attenuation measures, including solid walls/fences and landscaping at the property edge.
- Screen vehicular ramps at the south façade and at the southern end of the west façade to reduce noise transmission to neighborhood.
- Maximize natural light in the Garage Structure to reduce artificial lighting and to help with parking customer orientation while reducing energy consumption.
- Reduce energy consumption by maximizing natural ventilation in the Garage Structure.
- Control light spill and community views of light sources from site lighting and parking decks of the Garage Structure.
- Capitalize on southern exposure by using architectural green screen and/or plantings at base of the Garage Structure façades facing the community.
- Incorporate day lighting strategies for interior spaces such as at the CSC to supplement artificial lighting and reduce energy consumption.

The existing 18-foot high noise wall at the south of the SWSA would restrict view of the Garage Structure along its length, except for possible views of the top levels of existing homes from Maverick Street and framed views from streets perpendicular to Maverick Street. While the southwestern bays of the Garage Structure extend beyond the existing sound wall and may be visible from the rear of homes on the north side of Maverick Street and down Lamson Street, 6-foot solid fence/wall and landscape berms are proposed to provide a visual and noise buffer. Figure 1.17a shows a community perspective from Maverick Street. Figure 1.7b shows an illustration of the proposed public multi-use path on the western edge of the Service Road.

A key goal of the design for the Program is that the individual facilities/uses are uniform and consistent in appearance, and visually appropriate when viewed from the residential community to the south and west as well as the park to the north. The architectural design approach aims to provide consistent materials for the components of the ConRAC facility, including the Garage Structure, CSC, and QTAs. For example, terra cotta, a warm, contemporary clay material, is proposed for the sides of the Garage Structure that face the community. The terra cotta material is consistent with the red brick buildings found throughout the adjacent neighborhood. The terra cotta material will also be utilized as an exterior material on the CSC, which faces the airside of the site. Also, on the CSC, the vertical circulation cores that anchor the two ends of the building will be terra cotta, which aims to identify key circulation paths for building users. The design of the ConRAC facility is intended to give the community a familiar view, of colors and materials similar to those of the neighborhood, and create a scale for the airport facility that is comfortable for the renting customers.

For consistency with the Garage Structure, terra cotta will be used to on the vertical circulation cores of the CSC such as stair and elevator shafts. These elements act as beaconing signals for building users and the consistency of materials would be evident from several views into the SWSA from both the airport user and community. From the primary view of the ConRAC facility at the bus ramp approach, the terra cotta building

features of the Garage and CSC are seen together. Views of the ConRAC facility from the rental car return approach along Tomahawk Road (Figure 1.5) show that the CSC south core and Garage Structure south facade create a cohesive image for the rental car customer and almost completely enclose the south face of the Garage Structure. The enclosure is the maximum allowed by code for an 'open air garage' and the design ensures limitation of noise and air quality infiltration as well as light spill into the adjacent residences along Maverick Street. The west facade has been similarly treated for areas that directly face residential properties. The west facade has also been designed to block view into the Garage Structure through the use of a terra cotta louver system, but is by code still defined as an 'open air garage' and, therefore, utilizes more openness than the more visible south facade.

The terra cotta material is also proposed for the facade of the QTAs that face the community at the mixed-use path along the west side of the SWSA. This treatment brings the material closer to the community at a smaller scale than the larger on-site facilities. These buildings are also the program element that is closest to the community at the west side of the property. It is important to note that these QTA maintenance and administration buildings will block a considerable amount of the west facade of the Garage Structure from community view. It is therefore important that these facilities portray as much of a comfortable visual expression that complements the adjacent neighborhood.

Other materials tying the proposed facilities together include an extensive use of perforated metal. The perforated metal is the screen-like ceiling material at the CSC that shades a band of the CSC facade glazing, and is woven into the garage facade as an infill material providing fall protection and facade screening. Each building on-site will be constructed of pre-cast concrete and will leave some finished concrete exposed.

Garage Structure Façade Treatments

In response to community concerns, the overall impact of air emissions, noise and light spill from the SWSA Redevelopment Program and, specifically the Garage Structure, have been minimized through thoughtful planning and design of all project elements. Façade treatments (including partial enclosure) of the sides of the Garage Structure that face the community (the southern and western facades) have been considered and evaluated. The proposed architectural facade treatments of the Garage Structure (described further in the sections below) have been designed to screen the community from air emissions, noise light spill, and visual impacts. The proposed facade treatments provide minimum openness while providing the required ventilation impacts from an 'open parking garage', as defined by the building code. Chapter 4, *Air Quality and Noise* presents an evaluation of full enclosure of the Garage Structure.

The south facade of the Garage Structure, closest to the community, is proposed to be set back approximately 80 feet away from the nearest residence and approximately 80 percent enclosed, allowing adequate openings for ventilation and borrowed daylight. This is expected to shield air emissions, noise, light spill, and visual impacts. The south facade is proposed to be clad with structural panels that support the Garage Structure. The panels will be covered with a terra cotta system that relates to the brick walls found throughout the neighboring East Boston Community. Terra Cotta louvers and perforated metal panels will cover areas that are required by code to be 'open' for ventilation. These treatments would screen views into the parking decks and would eliminate any light spill escaping from the building at night. The semi-enclosed southern facade would also block noise and air emissions into the adjacent community.

The proposed set back for the west façade of the Garage Structure ranges from approximately 350 to over 500 of feet away from the airport property line and will be separated by QTAs 1 and 2 as well as extensive landscaping as a part of the Phase 2 SWSA Airport Edge Buffer and a solid wall/fence (described previously). The architectural treatment of the west façade of the Garage Structure is proposed to be, on average, over approximately 50 percent enclosed, with a more concentrated treatment of solid panels and architectural louvers that screen views into the parking decks at the southwest corner (the portion of the Garage Structure closest to the community).

Figure 1.7 (previously shown) illustrate the proposed façade treatments for the Garage Structure aimed at controlling noise, air emissions and light spill while eliminating the need for substantial ventilation systems (as an energy conservation measure). It includes a combination of solid panels for noise and light control, perforated panels that moderate noise and light spill, and use of translucent materials, such as textured glass that allows for more daylighting of the CSC.

The community perspective from Memorial Park, Figure 1.17c, shows a temporary QTA building and the north façade of the Garage Structure in the distance. The north façade of the Garage Structure is similar in height and length to the 156 Porter Street condominium building, and is four stories lower than the Embassy Suites Hotel shown in the perspective.

Customer Service Center

The CSC will be treated in a manner similar to an airport terminal building. The exterior materials will be cohesive with those of the Garage Structure, as stated above. Many of the sustainable design measures described within this Program for the ConRAC are incorporated within the interior of the CSC and are described below.

The concept of the interior architecture of the CSC revolves around the central theme of daylighting the space through diffusion of direct sunlight. In addition to high-efficiency lighting fixtures, the building has been designed to capture daylight through a series of skylights, clerestory windows and extensive curtain wall systems – both of which are energy conservation measures, which reduce stationary source GHG emissions. The intent is to filter the light into the building through a series of reflections, to create the illusion of light entering the space from above without a known source. The light will come through the skylights into a plenum space, bounce upward from the upper surface of the perforated metal ceiling, onto an upper ceiling where the light will diffuse, and enter the main space back through the openings in the perforated panels. The effect is intended to be an even, non-direct light source. Similar lighting treatments will occur on the wall behind the transaction counters. Light at this location will be captured through clerestory windows on the west faced and will be reflected and diffused through a series of light planes located above the counter soffit. The effect will be an even washing of the wall with indirect natural sunlight. Direct light coming from the east on sunny mornings will be filtered into the CSC through the exterior perforated metal “sun-shade” to avoid glare.

Interior finishes of the CSC will be durable materials that have been tested throughout airport settings to withstand the rigors of daily use. The materials will be of the high quality and will consist of:

- Stainless Steel – column wraps, wall accents, specialty areas;
- Porcelain and Ceramic Tile – wall treatments;

- Wall Panel Systems – wall treatments of wood or laminates; and/or
- Glass, Screens, other specialty systems.

Quick Turnaround Areas (QTAs)

The QTA buildings and site walls are located perpendicular to the perimeter of the Site to reduce the visual impact to the Gove Street Neighborhood homes and to the proposed community multi-use path connecting Maverick Street and Memorial Stadium Park at the western edge of the SWSA. These building elements will be screened from the neighborhood and path (Figure 1.17c). Their designed to be at the scale of the adjacent neighborhood. Visual, noise and light spill impacts will be minimized with 6-foot solid walls at the edge of the Site and by cut-off fixtures for the pole-mounted lighting. The QTA buildings will be constructed of pre-cast concrete panels. The concrete would consist of a regulated finish and would exposed on the exterior of the building. Where the QTA building is closest to the community edge, the panels will be treated with the terra cotta system similar to that used on the south façade of the Garage Structure. The intent is for a cohesive appearance of all built elements of the facility.

Program Alternatives Evaluation

The 2008 Draft EIR/EA (specifically, Chapter 2, *Alternative Analysis*) provided a comprehensive evaluation of alternatives to the SWSA Redevelopment Program. Additionally, to provide context for the alternatives evaluation, Chapter 2 of the 2008 Draft EIR/EA provided an overview of the rental car industry, discussed previous site evaluation and planning studies, and described the ongoing planning and design process. In response to the Secretary’s Certificate on the NPC, this section provides an overview of the 2008 Draft EIR/EA alternatives analysis as well as addresses the following two specific items:

- Whether relocating all rental car operation to other on-airport locations (including closer to the MBTA Airport Station) is feasible in light of the reduced program; and
- Whether a partially below-grade Garage Structure is feasible.

This section explains the rental car industry airport operations, customer profile and operational profile at Logan Airport which guided Massport’s development and evaluation of a range of alternatives. It then describes the siting process, including planning goals and criteria for the consolidated rental car facility, which included a number of on- and off-airport siting options.

Massport concluded that the SWSA is large enough to adequately accommodate the ConRAC facility and other program elements and would make efficient use of available on-airport land while providing excellent ground access to main circulation roadways, terminals and regional highway network.

Understanding of Rental Car Operations

The following is a profile of the rental car industry at Logan Airport, including current market shares, business approaches, and operations.

As of June 2008, eight car rental agencies serve Logan Airport. This is a highly competitive industry, with narrow profit margins and several different business models. Market share is an important metric of a company's presence, and a shift of a few percentage points in either direction can be a key indicator of a rental car company's profitability. The industry has also seen significant changes in ownership over the last few years, with Hertz sold to an investor group, and Vanguard (parent company of Alamo and National) acquired by Enterprise. The internet has brought more transparency in pricing, particularly for the non-business customer. Although all companies provide a similar product, they employ a range of business models with corresponding customer profiles.

The rental car industry is an important part of Massport's financial structure. The companies process approximately one million rental car contracts a year at Logan Airport. Rental car activity is a function of air passenger activity and, with the expected annual increases in Logan Airport enplanements, rental car demand is expected to increase by about 2.3 percent a year.

Logan Customer Profile

Rental cars are an important part of Logan Airport's ground transportation operations. Based on data collected during the 2007 Air Passenger Survey, the rental car mode accounted for just over 12 percent of Logan Airport's ground access mode share. Non-resident business travelers comprise the majority (61 percent) of the Airport's rental car customers, and they tend to come from higher income households. Over 40 percent are from households with annual incomes greater than \$150,000, while most car renters (57 percent) are traveling alone.

Operational Profile

The current rental car operational profile at Logan Airport is relatively inefficient. Each of the companies operates a separate shuttle bus service that transports customers between customer service facilities and the terminals. All ready/return activities occur on the individual companies' sites some of which have limited capacity for vehicle storage. Each company has its own washing, vacuuming, and fueling facilities. These facilities must share space with all the other functions required to support a rental car business.

In order to meet the demand for ready vehicles, which typically begins on Monday, companies must often shuttle vehicles to the Airport from off-airport locations early in the week, because there is insufficient vehicle storage capacity on-airport. Later in the week, when business travelers are returning vehicles, rental cars must either be stored on-airport or shuttled to off-airport properties.

The separate shuttle bus operations and the frequent transporting of vehicles to and from Logan Airport in response to weekly fluctuations in demand is highly inefficient in terms of labor, adds numerous vehicle trips to the local and regional highway system, and increases congestion at airport curbs and roadways.



SWSA Program Site Alternatives

Planning for the appropriate and convenient operations of rental car services at Logan Airport has been an on-going effort by Massport since the rental car companies began operation at the Airport. In the 1970s, rental car operations and ground transportation services were moved to the SWSA in an effort to make efficient use of transportation infrastructure. However, due to space constraints, complete consolidation of individual company rental car activities did not occur on the Airport, and many duplicate, rental car operations are scattered throughout East Boston and other remote community sites in Chelsea and Revere.

These dispersed operations are inefficient, provide poor customer service, require considerable jockeying of vehicles to and from remote storage areas, and bring with them associated negative environmental impacts, particularly air quality. Without the ConRAC facility, this dispersal of rental car facilities would continue and the SWSA would continue to become more congested and inefficient, neighboring communities would still feel the effects of rental car operations, and levels of customer service would continue to be diminished.

While the Logan Modernization program of the 1990s addressed airport upgrades and redevelopment in the central terminal area and projects at the north end of the Airport, the SWSA has not been upgraded or improved since rental car operations and ground transportation services moved there approximately 30 years ago.

Alternatives Development

Rental car companies value consolidated facilities because they enhance customer service, reduce operating costs by reducing vehicle movements and required labor; they allow for sharing the cost of operating shuttle buses, and facilitate sharing building maintenance expenses. Airports favor these types of facilities because they reduce roadway and curbside congestion, improve air quality, and provide a higher level of customer service. With respect to Logan Airport, a consolidated rental car facility is not only consistent with environmental and ground access goals, but is vital to supporting long-range ground transportation and customer service needs.

The slowing economy and escalating fuel prices in 2008 created a challenging year for the airline industry. While this led to a short-term decline in passenger traffic, Massport expects that Logan will return to positive passenger growth. This is based on strength of the Logan market, including:

- The Logan Airport service area is one of the strongest origin and destination (O&D) markets in the country. Approximately nine out of ten airport passengers are local O&D passengers. Logan is the principal airport for the core Boston metro area and the principal airport for New England's domestic long haul and international services.
- Logan Airport has become the Low Cost Carriers airport for New England, accounting for 23 percent of total domestic seat capacity at Logan Airport in March 2008.
- Logan Airport is the second largest U.S. international gateway airport among non-airline connecting hubs. The airport is not dependent on a single carrier for international services.

Accordingly, Massport continues to plan, program, and finance the facilities and infrastructure that will be necessary to support continued safe, efficient, and environmentally sound operations. Given the long lead times required to implement a major facility, it is necessary and prudent to continue the permitting, design, and finance process now so that the ConRAC will be in place to help the Authority manage future rental car operations.

Consequently, as Massport began to consider options for improving the efficiency and effectiveness of ground transportation in the SWSA, it became clear that a true future “no-build,” or “no-action,” alternative that is typically developed in an EIR/EA is not a likely option. As discussed, current rental car operations are inefficient and costly, and provide mediocre customer service. If the consolidated facility is not built, the likely result is that the rental car companies will seek and/or expand off-airport operations.

As described in its annual Environmental Status and Planning Reports (ESPRs) and Environmental Data Reports (EDRs), Massport has long contemplated making the SWSA more efficient through the development of enhanced transportation facilities, including a consolidated rental car facility, or ConRAC, and additional commercial parking. A number of Massport studies were completed during the 1990s and early 2000s that identified the need for an on-airport ConRAC as well as much needed commercial parking. Massport, in its effort to address rental car activity operational and environmental impacts, considered several options in the rental car facility and parking planning process (see Table 1-2 below).

The SWSA was identified as the preferred site for a consolidated rental car facility because:

- It is close to the main circulation roadways, terminals and regional highways (Interstates 90 and 93 via the Ted Williams Tunnel), thereby providing a high level of customer accessibility as well as operational efficiency for airport related transportation services.
- The location also facilitates reduction of vehicle miles traveled leading to improved air quality.
- The SWSA is the only on-airport parcel with sufficient land area to accommodate long-term transportation, parking and access demand for rental car operations based on current and future air passenger growth at Logan Airport. (Over 45 acres of land is required to efficiently and adequately accommodate the anticipated rental car demands in a limited height Garage Structure. If the ConRAC was located elsewhere on-airport on available parcels that are smaller than the SWSA, it would require a much taller structure with additional levels resulting in a decrease in efficiency of operations while imposing greater project costs and visual impact on the surrounding communities.)
- The SWSA provides Massport the ability to reuse existing infrastructure (e.g., existing roadway infrastructure that provides access to the SWSA and has potential capacity to serve future traffic volumes).

Table 1-2
Rental Car and Parking Planning Alternatives

Rental Car Planning Options	Planning Considerations
Continue current and future rental car operations in SWSA with each rental car agency in a separate location with individual shuttle bus and customer service facilities	<ul style="list-style-type: none"> ➤ Roadway curb and SWSA congestion ➤ Duplication of shuttle bus services ➤ Inefficient use of scarce airport land resources ➤ Reduced customer service ➤ Increased off-airport rental car activity ➤ Increased environmental impact ➤ Not a Smart Growth approach ➤ Acres required to adequately accommodate the Program
Relocate entire rental car operation to a remote location off-airport	<ul style="list-style-type: none"> ➤ Places more rental car activity in the community ➤ Reduces level of customer service ➤ Requires additional busing and vehicle miles traveled ➤ Results in duplication of infrastructure ➤ No sites (on-airport) of adequate size
Disperse a portion of rental car operations to remote offsite locations such as Logan Express	<ul style="list-style-type: none"> ➤ Inefficient operations and poor customer service ➤ Separates the ready/return vehicles from the quick-turnaround areas that service the vehicles ➤ Requires considerable jockeying of vehicles to and from remote storage areas ➤ Results in negative environmental impacts due to emissions from motor vehicles ➤ Inadequate Logan Express facilities
Disperse rental car operations to various locations around the airport	<ul style="list-style-type: none"> ➤ Results in inefficient operations and poor customer service ➤ Separates the ready/return vehicles from the quick-turnaround areas that service the vehicles ➤ Requires considerable jockeying of vehicles to and from remote storage areas, generating additional vehicle trips and a negative environmental impact due to emissions from motor vehicles ➤ Results in duplication of shuttle buses and associated VMT on airport road
Relocate all rental car operations to another on-airport location	Planning Considerations
North Cargo Area	<ul style="list-style-type: none"> ➤ Land available for development within this area is not adequate in size to accommodate the current and future rental car needs at Logan Airport ➤ The location of this area is not adequate to accommodate the current and future rental car needs at Logan Airport ➤ Currently accommodates air cargo and essential airline support services such as hangars, GSE maintenance facilities ➤ Suited to uses that need airside access ➤ Portions of the site are located within the Runway Protection Zone
Robie Parcel (located within the North Cargo Area)	<ul style="list-style-type: none"> ➤ Not adequate in size (approximately 7.6 acres) or location to accommodate the current and future rental car needs at Logan Airport ➤ Not in close proximity to key airport roadways ➤ Would likely add VMTs if used in connection with rental car operations ➤ Site is reserved for interim commercial parking and future aviation activity¹ ➤ Site should be compatible with long-term adjacent airside activity

Table 1-2
Rental Car and Parking Planning Alternatives (continued)

Relocate all rental car operations to another on-airport location	Planning Considerations
North Service Area	<ul style="list-style-type: none"> ➤ Land available for development within this area (approximately 9.5 acres) is not adequate in size to accommodate the current and future rental car needs at Logan Airport ➤ The location of this area is not adequate to accommodate the current and future rental car needs at Logan Airport, as it is not accessible to roadway and highway system ➤ Programmed for airside operations (potentially consolidated flight kitchen operations) and the new Bus Maintenance Facility as well as the temporary Bus and Limousine Pools ➤ Could interfere with other airport service functions ➤ Portions of the site are located within the Runway Protection Zone
Bird Island Flats/South Cargo Area	<ul style="list-style-type: none"> ➤ Land available for development within this area (approximately 4 acres) is not adequate in size to accommodate the current and future rental car needs at Logan Airport ➤ The location of this area is not adequate to accommodate the current and future rental car needs at Logan Airport ➤ Could interfere with primary cargo area with secured airside access ➤ Potential site for future terminal
Southwest Service Area	<ul style="list-style-type: none"> ➤ Only on-airport parcel with sufficient space to accommodate a consolidated rental car facility in a structured facility with shared services (approximately 49 acres) ➤ Historically, has been used for airport ground transportation operations, including rental car operations, long-term overflow commercial surface parking ➤ Has space to efficiently and adequately accommodate the anticipated rental car demands in a limited height garage ➤ Would allow for economies of scale for rental car companies ➤ Excellent access to airport roadways and the regional roadway system ➤ Close to the main circulation roadways, terminals, and regional highways (Interstates 90 and 93 via the Ted Williams Tunnel) ➤ Provides a high level of customer accessibility as well as operational efficiency for airport related transportation services ➤ Facilitates environmental benefits in the form of reduced vehicle miles traveled leading to improved air quality ➤ Provides Massport the ability to reuse existing infrastructure (e.g., existing roadway infrastructure)

¹ Refer to Appendix D for the February 1, 2010 *Request for Advisory Opinion/Logan Airport Parking Deck* for further details.

The outcome of this planning process was that Massport determined that consolidation of rental car and other ground transportation operations in the Southwest Service Area would be the most efficient use of scarce airport land resources.

Again, consolidation of rental car facilities in the SWSA would make efficient use of available land (the most adequately-sized on-airport parcel available for redevelopment); make good use of existing airport access roadways and ground transportation infrastructure; make optimal use of the SWSA's proximity to airport facilities (i.e., terminals) and regional highway network; facilitate pedestrian, bicycle, and transit accessibility by locating the facility within walking distance to public transportation; and provide environmental benefits when compared to not building the ConRAC facility. Even without the consolidated commercial parking element, as originally programmed, the SWSA remains the only available site to satisfy the Purpose and Need of the Program.

Re-Evaluation of Site Alternatives

This section re-evaluates on-airport site alternatives in light of the reduced program, as presented in the 2009 NPC and herein, as requested by the Secretary's Certificate on the 2009 NPC. As discussed previously, the Garage Structure has been reduced in both height and size, and has been relocated farther away from the nearby residential community. However, each of the other program elements—apart from additional commercial parking within the Garage Structure—has been retained in the revised Program. The Bus and Limousine Pools, which were to be relocated to the North Service Area under the 2008 Draft EIR/EA Program, have been retained within the SWSA as part of the revised Program.

Despite the reduction in the height and size of the Garage Structure (which included the removal of a parking level), a minimum of over 45 acres of land is required to accommodate the proposed ConRAC facility and other upgraded ground transportation facilities, including the Taxi Pool, Bus and Limousine Pools, and retain some long-term overflow commercial surface parking as well as implement the Phase 2 Airport Buffer. Even without considering landscaping and pervious areas, some of which would be required to satisfy applicable environmental standards and community concerns under any circumstances, the Program presently requires more than 41 acres of pervious surfaces to efficiently operate and adequately serve the airport, and the rental car companies and customers. At least some of the additional 6.1 acres of landscaped and pervious areas proposed as part of the Program would remain necessary to meet environmental (drainage) and community (buffer) concerns no matter where on-airport the revised Program was to be located. Therefore, unless the Garage Structure was revised to be taller and far more massive, over 45 acres of land would be necessary to accommodate the full Program. As shown on Table 1-2 above, the SWSA remains the only on-airport parcel of sufficient size where the other possible on-airport site locations are all too small. Additionally, in all cases, those other airport parcels are already being used for other essential airport functions which cannot be displaced, or are under planning consideration for such uses in the future, and thus are not reasonably available to serve the revised Program.

Equally important than SWSA's appropriate size and availability for use is the SWSA's excellent proximity to the key airport roadways that provide efficient access not only to the airport terminals but to the regional highway system. The SWSA's superior access characteristics will allow for implementation of the Unified Bus System, which would provide for improved traffic conditions and, therefore, air quality benefits while providing convenient access to and from the MBTA Airport Station, the airport terminals, and the consolidated rental car operations. Any other on-airport location considered for the revised Program would result in a less efficient and environmentally-beneficial Unified Bus System.

The SWSA continues to be identified as the preferred site for the ConRAC facility because compared to the other sites evaluated it is the only on-airport parcel that:

- Is large enough to efficiently and adequately accommodate the long-term transportation, parking and access demand for rental car operations based on current and future air passenger growth at Logan Airport, which requires at minimum of over 45 acres to accommodate the anticipated rental car demands in a limited height Garage Structure.¹² (The NSA is only approximately 9.5 acres total and

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If the ConRAC facility was located elsewhere on-airport on parcels that are smaller than the SWSA, it would require a much taller Garage Structure with additional levels. This would result in a decrease in efficiency of operations while imposing greater project costs and, potentially, greater visual impact on the surrounding communities.

the Robie Parcel is only approximately 7.6 acres total – both of which are programmed for other airport-related operations/uses.)

- Would make efficient use of available on-airport land;
- Would make efficient use of access to main airport circulation roadways, terminals and the regional highway network providing excellent ground access;
- Would utilize existing airport ground transportation infrastructure;
- Would follow sustainable/LEED criteria through the ability to facilitate pedestrian, bicycle and transit accessibility by locating the facility within walking distance to public transportation; and
- Would provide environmental benefits (e.g., improved air quality through reduced vehicle-miles-traveled).

Evaluation of a Partially Below-Grade Garage Structure

Massport considered numerous alternatives before concluding that the preferred site layout and program would be appropriate to adequately meet the Purpose and Need. In accordance with the Secretary's Certificate on the NPC, Massport investigated placing the proposed Garage Structure partially below-grade in order to reduce the height.

Analysis of the existing utilities, drainage patterns, soil types, and infrastructure identifies that there are a number of site and design challenges to depressing the Garage Structure. Significant amounts of soil would need to be removed in order to prepare for construction of the below-grade levels. Some of these soils are contaminated and are costly to excavate, manage and dispose of in accordance with applicable legal requirements. New soil would need to be brought in to fill under the new building. Moreover, the water table is very close to the surface. Groundwater at this location is subject to tidal influence. The SWSA is set at the edge of the airport property on the Boston Harbor. Not only would extensive dewatering during construction be required, but also permanent pumping and extensive drainage solutions would be required to keep the lower levels of the Garage Structure water-tight and free from flooding after construction. The soil and drainage challenges would greatly extend the construction schedule, and increase overall costs for construction, maintenance, and operations for the Garage Structure.

In addition to soil and groundwater constraints, submerging levels of the Garage Structure would cause conflict with the existing on-site utilities. The most significant of these utilities is the 10-foot by 12-foot box culvert (the Boston Water and Sewer Porter Street Outfall) that runs directly underneath the proposed Garage Structure and CSC building. (Refer to Figure 1.18.) Boston Water and Sewer owns this outfall and the easement to access it. The Outfall runs through the site and empties into the Harbor behind the Harborside Hyatt Hotel. Submerging the Garage would mean redesigning and relocating this structure. Since the Outfall is part of the drainage system for the Airport and a large area of East Boston, relocating it would be impractical and a big undertaking. In addition to the Outfall there are several other utilities that currently supply the existing RAC Facilities. These can be relocated somewhat more easily than the Outfall but must remain functional during all phases of construction to keep the RACs operational. Removing or relocating all of the utilities that currently run through the RAC sites would add more temporary utility connections, thus more site work, and more time to the Program construction schedule.

Since many of the utilities run directly through the base of the proposed Garage Structure, the foundations of the proposed above-ground structures are being designed around these utilities to avoid conflicts and retain access to all legal easements. An above-ground Garage Structure avoids a costly and complex coordination effort with the City of Boston and local utility companies in order to keep the surrounding area up and running while all the lines are replaced and relocated.

Due to site constraints, including water intrusion, soil condition, and utility infrastructure, the above-grade Garage Structure would result in fewer environmental impacts and construction period impacts to the community. An above-ground garage can be constructed with less soil excavation, filling, generation of potentially hazardous wastes, construction dewatering, permanent dewatering, and GHG emissions. A partially below-ground Garage Structure would require mechanical ventilation, be substantially more costly to construct and maintain, and be less efficient to operate. A partially below-grade Garage Structure would expose customers and employees to an inhospitable underground location. For these reasons, Massport determined that designing the Garage Structure located at- and above-grade is the most feasible, operational, and user-friendly facility.

Sustainable Design and Greenhouse Gas Emissions Assessment

Introduction

Chapter 3, *Planning and Sustainable Design* of the 2008 Draft EIR/EA outlined the planning and design process undertaken for the proposed SWSA Redevelopment Program, as well as the Program's goals and objectives for sustainable design. This chapter expands upon the sustainability goals and performance criteria of the SWSA Redevelopment Program and updates the Greenhouse Gas (GHG) assessment, in accordance with the Secretary's Certificate on the 2009 Notice of Project Change (NPC), dated December 23, 2009, and subsequent consultation with the MEPA Office. In response to the Secretary's Certificate, the 'Sustainable Planning and Design' section of this chapter provides:

- A discussion of Low Impact Design (LID) and the use of Integrated Management Practices to control stormwater to minimize runoff impacts; and
- Discusses facilitating the use of alternative/clean-fuel rental car vehicles, including hybrid and/or electric vehicles and opportunities for vehicle sharing.

In response to the Secretary's Certificate, the 'Greenhouse Gas Emissions Assessment' section of this chapter provides:

- An updated modeling analysis of energy use and CO₂ emissions from the project's direct and indirect stationary source GHG emissions, including project-related improvements;
- Additional detail/clarification on the proposed stationary source-related improvements (beyond the Code minimum requirements) and associated GHG emissions reductions;
- Consideration of specific additional building improvements;
- Clarification on the Leadership in Environmental and Energy Design (LEED®) standard that the SWSA Redevelopment Program intends to meet;
- Further consideration of on-site renewable energy sources; and
- Evaluation in terms of GHG emissions the energy use required for water supply and wastewater treatment and effect of any proposed measures aimed at reducing water use and/or wastewater generation (e.g., low-flow fixtures and equipment; Infiltration/Inflow removal).



¹ In accordance with the Certificate on the NPC, the proposed automated energy management control system is discussed below under the 'Greenhouse Gas Emissions Assessment' section and a direct response to the comment requesting maximizing the thermal mass of conditioned buildings is provided in Chapter 9, *Responses to Comments*.



Key Findings and Benefits

The proposed SWSA Redevelopment Program includes the following principles of sustainable design site planning:

- Efficient use of the SWSA (the only adequately-sized on-airport parcel available for the proposed program);
- Efficient use of existing airport access roadways and ground transportation infrastructure;
- Efficient use of the SWSA's proximity to airport facilities (i.e., terminals) and regional highway network;
- Incorporation of sustainable elements, such as the redevelopment of previously developed and underutilized land, creation of more pervious area, transportation improvements (e.g., the alternative fueled Unified Bus System), energy efficiency and renewable energy, potable water conservation (at minimum 20 percent reduction for buildings and 50 percent reduction for irrigation), improved indoor air quality, environmentally-sensitive building materials, and recycling during construction (at minimum 75 percent) and operations (at minimum 50 percent);
- Application of the MA LEED Plus program requirements while striving to achieve a LEED certification Silver rating or better; and
- Implementation of tenant guidelines that will either mandate or encourage specific sustainable measures, where applicable, reasonable and feasible.

The key findings and benefits related to GHG emissions include:

- Mobile source GHG emissions associated with the Program are predicted to decrease by 39 percent or 36 percent under the 2018 Build Condition for the Unified Bus System Clean Diesel Hybrid Option or CNG Option, respectively when compared to the 2018 No-Build/No-Action Conditions (Table 2-2). This decrease is primarily attributable to the forecasted decrease in VMT by the Unified Bus System.
- Stationary source GHG emissions associated with the SWSA Redevelopment Program will be reduced by a minimum of 20 percent when compared to the baseline condition, which assumes a conventional facility that meets the minimum requirements of the Massachusetts Building Energy Code (2008).² The design approach aimed at reducing overall energy demand, which results in reductions in direct and indirect stationary source CO₂ emissions, is three-fold:
 - Appropriately designed and sized building systems;
 - Incorporation of energy-efficient systems; and
 - On-site generation of energy (renewable energy).



² Massachusetts Building Code, 780 CMR, 7th Edition (2008).

- The design goal for the Garage Structure is to maintain a building code classification of an 'open parking structure' to allow for daylight and natural ventilation, thereby, avoiding the need for a substantial amount of air conditioning (cooling and heating) systems that would result in an increase in energy use as well as higher project costs. Increased energy consumption would result in greater stationary source GHG emissions, thus negatively impacting local, regional and global air quality.
- The minimum 20 percent reduction in overall energy usage would be achieved through a combination of building design and system improvements over minimum MA Building Code requirements. Strategies include:
 - Reduced lighting intensities (watts per square foot) in the Garage Structure and in the surface parking lots;
 - Efficient heating and cooling systems in the conditioned buildings (CSC and QTA buildings); and
 - Utilization of on-site renewable energy source (e.g., solar or wind) that will supplement a minimum 2.5 percent of the overall electricity demand.

Sustainable Planning and Design

Massport's approach to environmental management and compliance is a key component of Logan Airport's sustainability commitment. Through regular monitoring and documentation, environmental performance is assessed, allowing policies and programs to be developed, implemented, and evaluated. Refer to Appendix C for a copy of Massport's Environmental Management Policy.

Massport is committed to supporting the Commonwealth's sustainable initiatives, including the recent Executive Order (EO) 484 promulgated by Governor Patrick in April 2007. As discussed in detail in the 'Consistency with Policies and Plans' section of Chapter 3, *Planning and Sustainable Design* of the SWSA Redevelopment Program 2008 Draft EIR/EA, EO 484 establishes the Leading by Example (LBE) Program as a way to oversee and coordinate sustainable efforts (e.g., promote energy conservation, waste reduction, natural resource protection) by state agencies and encourage private sector developers to implement sustainable practices. In 2008, Massport won the LBE Award for reducing air emissions with four key strategies, including reducing emissions from facilities and operations, offsetting airport-wide emissions, reducing energy consumption, and employing renewable energy resources.³ The goals of the SWSA Redevelopment Program support the following key initiatives of EO 484:

- Reduce GHG emissions through good design and compliance with the *MEPA Greenhouse Gas Emissions Policy and Protocol*;
- Incorporate energy and water conservation measures into the SWSA Redevelopment Program, including promoting on-site renewable energy opportunities;



³ 2008 Leading By Example Awards, Executive Office of Environmental Affairs, http://www.mass.gov/Eoeea/docs/eea/lbe/lbe_2008awards.pdf

- Using the LEED Green Building Rating System, the proposed program will be designed, constructed and operated to be eligible for LEED certification. Massport will meet the requirements of the MA LEED Plus program and strive to achieve a LEED Silver rating or better;⁴ and
- Recycle construction waste material.



Massport Sustainability Guidelines

In June 2009, Massport's Capital Programs and Environmental Affairs Department developed the *Logan Airport Sustainable Design Standards and Guidelines* for Massport's Capital Program. These guidelines are one component of Massport's overall sustainability program, which include diverse sustainability initiatives ranging from facilities maintenance to innovative partnerships and public incentives.

The Standards are tailored to Massport's operations, facilities, and geography, and are intended to be used by architects, engineers, and planners working on capital projects for Massport. The Standards apply to both new construction and rehabilitation projects (building and non-building) of any square footage or monetary value and may also be used on tenant alterations or development projects on Massport property.



LEED® (Leadership in Energy and Environmental Design) Green Building Rating System

LEED is a third-party certification program run by the U.S. Green Building Council (USGBC) and a nationally accepted benchmark for the design, construction, and operation of high performance buildings. LEED gives building owners and operators the tools they need to have an immediate and measurable impact on their buildings' performance. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

Massport is using the LEED-New Construction and Major Renovations (NC) Green Building Rating System (registered under version 2.2) to develop the design of the SWSA Redevelopment Program and as a benchmark against which to compare the SWSA Redevelopment Program. LEED-NC is designed to guide and distinguish high-performance buildings and was initially contemplated for commercial and institutional building types, including office buildings, high-rise residential buildings, government buildings, and recreational facilities. Building types such as manufacturing plants, laboratories, parking garages, and rental car facilities are not included within a typical use category for LEED-NC because of its utilitarian nature. The proposed Garage Structure, however, serves more functions than simply vehicle parking. This facility will be of high quality for the airport customers and could be considered a retail space, with signage, lighting, and access points all of which could consume large amounts of energy and water and impact stormwater run-off. Through the utilization of the LEED concepts and standards established under the LEED rating system, the proposed program is expected to be designed and constructed to lessen these impacts. A draft LEED-NC version 2.2 LEED Credit Checklist is provided in Appendix C.



⁴ As required by the current MA LEED Plus requirements, the proposed program has been registered with the U.S. Green Building Council to be certified under LEED for New Construction and Major Renovation, Version 2.2.

The current version of the LEED-NC (version 2.2) includes six credit categories offering a total of 69 points. LEED Credit categories include:

- Sustainable Sites
- Materials and Resources
- Water Efficiency
- Indoor Environmental Quality
- Energy and Atmosphere⁵
- Innovation in Design

A project is assessed by a checklist of achieved points for a final tally that corresponds to a level of certification. The lowest level of certification is “Certified”, then “Silver”, then “Gold” and the highest is “Platinum.” The USGBC conducts a review of a project, makes a determination on the achievable points and awards the project with an official letter and plaque confirming the achieved level of LEED certification.

Massachusetts LEED Plus Program

As mentioned above, Massport will design and construct the SWSA Redevelopment Program to meet the MA LEED Plus requirements. The Commonwealth of Massachusetts (specifically, the Executive Office for Administration and Finance [EO of A&F]) established a set of minimum standards for sustainable design and construction of new buildings and major renovations by Executive Agencies with the assistance of the Sustainable Design Roundtable and a report the organization prepared entitled: “Leading by Example: An Action Plan for Green Buildings in Massachusetts Construction Projects.”⁶ The EO of A&F has determined that, given the hundreds of millions of dollars spent each year to construct, renovate, manage and operate state buildings, and in keeping with the Administration’s commitment to long-term cost containment, energy efficiency (a minimum of 20 percent), improved public health and natural resource conservation, all new construction and major renovation projects for state buildings should meet minimum efficiency, sustainable design and construction standards. Effective September 1, 2006 all executive agencies shall follow the new sustainable design and construction standards outlined below for all new construction and major renovation projects. Major renovation projects are defined as those projects that include a complete overhaul of a significant portion of the original structure and where the cost of the renovation is greater than 50 percent of the assessed value of the building.

The MA “LEED Plus” program is designed to ensure that state buildings constructed and renovated in such a manner will result in buildings that are more efficient than a conventional building constructed to meet the current minimum MA Building Energy Code requirements, provide healthier indoor spaces for workers,

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5 This project has been registered with the U.S. Green Building Council under LEED-NC version 2.2. As of June 2007, LEED-NC version 2.2 requires the achievement of two points under the Optimize Energy Performance credit (a 14 percent minimum energy efficiency) from a baseline derived using the ASHRAE 90.1-2004 standard. ASHRAE 90.1-2004 is consistent with the current MA Building Energy Code (7th edition) and was used for deriving the baseline building energy usage to compare to the improved building (the Program), which demonstrates a total energy efficiency of 20 percent, in accordance with the MA LEED Plus requirement for energy performance.

6 *Leading by Example: An Action Plan for Green Buildings in Massachusetts Construction Projects*, Final Report of the Massachusetts Sustainable Design Roundtable dated October 2006.

residents, and visitors, use natural resources wisely, and reduce the overall long-term operating costs associated with heating, cooling, powering and generally managing the property. A higher up-front cost for sustainably designed and constructed building cannot not preclude its construction unless, after accounting for all incentives and rebates, such costs cannot be justified with a reasonable payback period of 10 years or less. Agencies must work to utilize an integrated design and construction process that ensures that these goals are considered during each of the design and construction phases.

According to the minimum standards for large projects (projects 20,000 square feet or larger) such as the SWSA Redevelopment Program, all executive agencies must adhere to the newly created MA LEED Plus standard for new construction and major renovation projects that are designed for use by a public entity. The MA LEED Plus requirements include obtaining the “basic” U.S. Green Building Council’s LEED certification, or a “Certified” level, and attainment of specific LEED credits that are referenced in LEED-NC (version 2.2). Table 2-1 below presents the additional pre-requisites of MA LEED Plus and summarizes how the proposed SWSA Redevelopment Program would meet these requirements.

Table 2-1
Program Compliance with MA LEED Plus

MA LEED Plus Requirement	SWSA Redevelopment Program Compliance Approach
“Basic” LEED Certification	The Program has been registered with the USGBC under the LEED-NC version 2.2 rating system – the first step in the certification process.
Energy performance exceeding the current minimum MA Building Energy Code by at least 20 percent*	As demonstrated by the building energy modeling (results presented under the ‘Greenhouse Gas Emissions Assessment’ section below), the overall Program will utilize high performance/energy-efficient lighting and mechanical conditioning systems (heating and cooling), incorporate daylighting strategies, at least 2.5 percent electricity from on-site renewable energy – all of which equate to a 20 percent energy efficiency.
Third party building commissioning	The buildings will be commissioned, post-construction and prior to building occupancy.
At least one of the four following Smart Growth criteria: 1. Construct or renovate on a previously developed site. 2. In a community with a minimum density of 60,000 square feet of building space per acre. 3. Within one-half mile of ten basic services and a residential zone or neighborhood with an average density of ten units per acre; and with pedestrian access between buildings and services. 4. Construct or renovate on a brownfield site.	The SWSA Redevelopment Program meets Smart Growth criteria 1, 3 and 4. The proposed program is considered a redevelopment of the previously developed SWSA. The SWSA is situated in close proximity to a residential neighborhood with basic services. Also, the proposed program is a redevelopment of an existing facility and includes remediation of contaminated land.
Construct or renovate on a site with public transportation (train or bus) within one-half mile	The SWSA Redevelopment Program will improve access to the MBTA Blue Line (Airport Station) with the proposed Unified Bus System. The Unified Bus System will also provide the rental car customers access to the MBTA Silver Line that services all airport terminals. Additionally, the proposed program will provide new pedestrian and bicycle connections/facilities as well as free shuttle bus access to the airport’s water transportation services.
Maintain 75 percent of existing building structure and envelope (if applicable)	Not applicable.
Reduce potable water consumption for irrigation by	The proposed landscape design will reduce potable water for irrigation by 50 percent through the incorporation of low-water demand species

50 percent	(native/adapted) and/or drought-tolerant planting types. Any irrigation system installed will utilize efficient equipment and, potentially, reuse stormwater runoff.
Incorporate strategies that will conserve at least 20 percent of project's potable water use	The Program would reduce potable water by 20 percent through the incorporation of low-flow plumbing fixtures, such as aerators, dual-flush valves, and automatic sensors on lavatory faucets and low-flow urinals in place of conventional plumbing equipment.

Note: *It is important to note that while both the current MA Building Energy Code (7th edition) and the Optimize Energy Performance credit of LEED-NC, version 2.2, both use ASHRAE 90.1-2004 for deriving a baseline condition, LEED-NC uses energy cost as the metric for measuring energy performance.



Proposed Sustainable Planning and Design Elements

The following section provides an update to the sustainable planning and design discussion that was included in the 2008 Draft EIR/EA. The items presented below have been composed with a focus on integrating measures that, in concert, will work to maximize benefits and minimize the proposed program's potential environmental and human health impacts. The primary sustainable goals include:

- Meet the MA LEED Plus requirements and strive for LEED Silver level certification or better;
- Provide net air quality improvement through GHG emission reductions as manifested in site design, ground transportation and building energy efficiencies, on-site renewable energy, construction material composition, production, and usage, and construction development techniques (in accordance with the GHG Policy);
- Engineer and achieve the above in a manner that is financially viable considering both capital budget and operating budget (with particular focus on life-cycle analyses); and
- Provide a clear demonstration of sustainable design to be consistent with Executive Orders No. 385 and No. 484.

Project Site Design and Planning

The proposed program will be constructed on land that is entirely paved and/or developed. Under the 2018 Build Condition, the Program would provide over seven acres of pervious surface area through the addition of site landscaping and as well as pedestrian facilities. Additionally, the SWSA is considered a brownfield site due to the existing known contamination, which will be remediated as part of the SWSA Redevelopment Program. The proposed program is designed to avoid/minimize/ reduce direct impacts to off-site natural resources and/or water resource areas through the upgrade to the SWSA stormwater management system. Low Impact Development (LID) measures that are applicable to the proposed program are discussed below. Chapter 5, *Natural Resources and Drainage* provides an evaluation of the LID measures considered for the SWSA Redevelopment Program. Other site-related sustainable design elements such as reduced irrigation needs and transportation-related improvements are both discussed further below.

Low Impact Development

Low Impact Development is a sustainable stormwater management strategy aimed at maintaining or restoring the natural hydrologic functions of a site to achieve resource protection objectives and regulatory requirements. LID would employ various natural and built features that reduce runoff rates and filter out

pollutants and recharge groundwater. LID design strategies that may be applied in the SWSA Redevelopment Program include:

- Surface grading to encourage sheet flow and lengthen flow paths;
- Dispersal of flow paths;
- Vegetated strips, depressions, and buffers to filter runoff and recharge groundwater;
- Treatment devices (e.g., oil-water separators, swirl concentrators) to treat pollutant loads where they are generated, or prevent their generation;
- Dry wells;
- Grassed swales;
- Infiltration trenches;
- Inlet pollution removal devices;
- Permeable pavement and pavers;
- Rain barrels and cisterns; and
- Tree box filters.

Reduced Irrigation

The SWSA Redevelopment Program will be designed to minimize the potable water demand for irrigation by a minimum of 50 percent (as required by MA LEED Plus) and will strive for zero use of potable water for irrigation. The minimum 50 percent reduction in potable water use for irrigation will be accomplished through the landscape design by incorporating low-water demand species (native/adapted) and/or drought-tolerant planting types (including drought-tolerant grass species for lawn areas). Also, the amount of lawn areas will be limited with the incorporation of plant beds with trees, shrubs and groundcovers that require less frequent watering. Any irrigation system will be installed with efficient equipment, including pressure regulating valves and spray heads, root watering systems/drip irrigation, weather-smart controllers and/or rain/weather sensors.

Through final design, the landscape plan will consider the need for permanent irrigation system or no potable water use for irrigation purposes through rainwater harvesting/stormwater runoff collection.

Transportation Improvements

As discussed in Chapter 3, *Surface Transportation*, the proposed program will include the implementation of a number of physical and operational traffic mitigation measures in an effort to minimize potential traffic congestion and associated air emissions, including a 70 percent shuttle bus fleet size reduction with the proposed Unified Bus System. A series of Transportation Demand Management (TDM) measures are proposed to further reduce single-occupancy vehicle trips. Additionally, the Garage Structure will provide accommodations for low-emission and/or alternative fuel vehicles. Refer to the 'Greenhouse Gas Emissions Assessment' section below for the estimated GHG emissions reductions associated with these transportation improvements.

Unified Bus System, Pedestrian/Bicycle Facilities and Access to Public Transportation

The proposed Unified Bus System and other free on-airport shuttle bus services as well as the SWSA's close proximity to existing public transportation (MBTA Blue Line, Silver Line and water shuttle services) make the site highly accessible for public transportation users. The proximity of the SWSA to East Boston neighborhoods provides an opportunity to encourage pedestrian and bicycle users by enhancing accessible routes through the SWSA and to public transit. New pedestrian corridors and bicycle facilities (e.g., secure bicycle storage) will connect airport customers and employees, and local residents to the adjacent neighborhoods through Memorial Park as well as to the MBTA Blue Line Station. Construction of these facilities aim to reduce the number of single-occupancy vehicles traveling to and from the SWSA. To further encourage the use of public transportation and other alternative modes of transportation, the Program will include bicycle storage for the public and employee shower/changing facilities within the QTA buildings.

Transportation Demand Management Plan

Transportation Demand Management (TDM) measures are typically targeted towards employees. For example, the SWSA Redevelopment Program will include the most effective TDM measure – a significant limitation of on-site employee parking (described further below). Additionally, the rental car companies will be required to join the Logan Employee Transportation Management Association (TMA).⁷ The proposed TDM measures include:

- Massport will not provide any Massport employee commuter parking within the SWSA.
- Rental car company 'employee' parking within the SWSA will be restricted to approximately 30 spaces (approximately 3 to 4 parking spaces per company) where it would be up to the rental car companies to decide how to use these spaces and whether to charge employees to park or not.
- Each rental car company will be required to become a dues-paying member of the Logan Transportation Management Association (TMA).⁸ The TMA is currently managed by MassRides. The Logan TMA will assist the rental car companies to:
 - Appoint a transportation coordinator to work with the TMA on a regular basis to develop and implement employee commute programs.
 - Provide some level of subsidy of transit passes to employees.
 - Provide employees with transit and rideshare information such as maps and schedules, as well as details of all available transit benefits and commuting transportation alternatives.
 - Provide ride-matching services.
 - Guaranteed Ride Home services to eliminate an often-cited deterrent to carpool and vanpool participation.
- Provide secure bicycle racks at grade near the proposed CSC and QTA buildings.



7 The Logan Employee Transportation Management Association is a non-profit coalition of airport businesses dedicated to reducing traffic congestion and pollution by organizing/supporting alternatives to drive-alone commuting. It encourages employees to use public transportation and other shared-ride options.

8 The Logan TMA is essentially a partnership between Massport and the airport tenants with Massport providing infrastructure and services that encourages use of alternate modes of transportation for employees such as walking, bicycling, and public transit.

- Provide shower/changing facilities for employees within the QTA buildings.
- Provide passive open space for employees and general public use.
- The Unified Bus System will provide free connections for employees and commercial patrons to the Silver Line and access to all other mass transit services offered at the terminals (i.e., shuttle to the Blue Line). The Maverick Street Blue Line MBTA station is also a short walk from the SWSA.
- Provide Automatic Teller Machines (ATMs) on-site.
- While no food service (other than vending machines) will be located on-site, the location of the facility provides good pedestrian and bicycle access to local eateries and services in the adjacent neighborhoods. Free shuttle services to the terminals will reach a variety of concessions and services.
- Through the Logan TMA, rental car companies will be encouraged to implement additional TDM measures where appropriate. Because not every TDM measure will be suitable for every type of employer, it is not assumed that all of these measures will be implemented. Therefore, they were not quantified as part of the estimated mobile source GHG emissions reductions, but should be considered as potential benefits to overall air quality. Potential tenant-based TDM measures may include:
 - Hold promotional events for bikers and walkers.
 - Provide incentives for bicycle and HOV commuting.
 - Offer payroll direct deposit to employees.
 - Sponsor vanpools and subsidize expenses.

The implementation of the TDM Plan is expected to benefit air quality in the study area by increasing the number of persons in a vehicle and promoting the use of alternative modes of travel. The redevelopment of the SWSA provides an opportunity to enhance use of high occupancy vehicle (HOV) modes for employees of the rental car companies. This will complement Massport's Logan Airport HOV goals for passengers and contribute to efficient operations on the airport roadways and terminal curbs. As described throughout the 2008 Draft EIR/EA and herein, Massport has made access to public transit and enhancement of pedestrian and bicycle access a site planning priority. In addition, as part of the lease agreements with each of the RAC companies, Massport will require membership and participation in the TMA, as described above.

Alternative Fuel/Low-Emitting Vehicles

Massport is committed to facilitating and encouraging, through the SWSA Redevelopment Program, the use of alternative-fuel and low-emission/high-efficiency vehicles as well as car sharing services, where feasible. To promote the use of environmentally-preferred vehicles (low-emitting/fuel-efficient, hybrid and/or alternative-fueled vehicles), Massport will encourage the rental car companies to designate a percentage of their rental car return parking spaces close to building entrances as a convenience to those who rent alternative-fuel and low-emitting/high-efficiency vehicles. Additionally, the current design guidelines for the Garage Structure include infrastructure necessary to accommodate future demands for electric plug-in stations, such as conduit and electrical capacity, and other alternative fuel sources such as E-85. This will continue to be evaluated and considered through final design. Car sharing services, such as ZipCar®, would not be precluded from being located at the Airport. Massport communicates regularly with car sharing service companies about locating on-Airport but to date these companies have not pursued this option.

The rental car industry is also committed to providing a fuel and energy efficient vehicle fleet at the ConRAC facility. The majority of the vehicle fleet currently offered at Logan Airport qualifies under the EPA Smartway Program for fuel efficiency and emissions ratings. The rental car industry has committed to continuing to increase the efficiency of the fleet to the greatest extent possible, pending vehicle availability, new technology and market demand. The ConRAC facility itself will be equipped with the ability to accommodate plug-in electric and other alternative fuel vehicles as they are added to the rental fleets. In addition to the vehicles offered, each rental car industry participant at the ConRAC will continue to honor their current commitments to the environment through their individual sustainable policies and operations. In the Garage Structure specifically, the rental car industry will embrace sustainable practices through the use of LED lighting and other efficient fixtures for their individual illuminated signage. Similar energy saving measures are incorporated into their customer service kiosks and booths located throughout their designated spaces within the Garage Structure. The rental car industry is committed to keeping the environmental quality at the highest level possible for both the renting customers and their employees working at the ConRAC facility.

Sustainable Building Design and Systems

The proposed program will be designed and constructed with efficient building systems, where feasible and cost-effective. Furthermore, Massport will work with all current and future rental car agency tenants to identify and implement similar feasible measures within the specific rental car companies' spaces.

Energy Efficient Systems

The design approach for the Garage Structure is to be 'open' (as defined by Code) to allow for natural ventilation, which eliminates the need for building ventilation systems and substantially reducing the energy demand of the building. Lighting strategies for the Garage Structure and surface parking lots (QTAs) include high-efficiency lighting, including LED lighting with a reduced lighting power densities (watts per square foot) compared to the minimum Code requirement. For enclosed buildings such as the CSC, high-efficiency lighting and motion sensors for common areas will also be incorporated as energy conservation measures; however, daylighting strategies (described further below) are proposed to first reduce the need for lighting during daytime hours. Additionally, tenant-occupied spaces will have individual thermostats, humidity and/or ventilation controls to improve the comfort of occupied spaces and conserve energy in unoccupied areas (discussed further below under 'Indoor Environmental Quality').

As previously mentioned, in accordance with the MA LEED Plus requirements, the SWSA Redevelopment Program will be designed and constructed to exceed the current Massachusetts Building Energy Code by at least 20 percent to further reduce energy demand and, therefore, GHG emissions. This performance criterion will be achieved through the integration of high performance/energy-efficient mechanical and electrical building systems (i.e., lighting systems, building envelope, HVAC and service hot water equipment, and/or on-site renewable energy technologies). Also in compliance with MA LEED Plus, Massport will commit to conducting a third party commissioning process that better ensures that building HVAC systems are calibrated and working as efficiently as they are intended. The GHG emissions reductions associated with the proposed performance criteria are presented in the 'Greenhouse Gas Emissions Assessment' section below.

Renewable Energy Sources

Renewable energy sources that continue to be studied include: solar power (Photovoltaic [PV] panels), which are being evaluated on the rooftop or other suitable areas (including the CSC, Garage Structure and/or QTA buildings); and micro wind turbines that would be located to take advantage of the prevailing winds at the SWSA. At this stage of conceptual design, Massport is committing to supplementing at least 2.5 percent of the proposed program's overall electricity use with solar or wind power, or another form of renewable energy. Massport will continue to look for additional opportunities for alternative energy sources as technology advances. The architectural design of all buildings within the SWSA will be designed and constructed to support on the rooftop several renewable energy strategies for potential future retro-fit.

Renewable energy could also be supported through the purchase of Green Power or through Renewable Energy Credits (RECs) or comparable market-based vehicles. Some rental car companies currently participate in carbon offset programs either corporate-wide and/or for customers.

Water Efficient Systems

As required by MA LEED Plus (20 percent minimum efficiency), the SWSA Redevelopment Program will be designed to reduce the potable water demand for sanitary purposes by 30 percent over conventional development through the use of low-flow plumbing fixtures, such as aerators, dual-flush valves, and automatic sensors on lavatory faucets and low-flow urinals. Additionally, the rental car washing activities will continue to reclaim water used per wash cycle. As discussed in Chapter 5, *Natural Resources and Drainage*, stormwater collection/reuse system and treatment/reuse of certain types of graywater may be used for various non-potable purposes such as vehicle cleaning and maintenance and/or irrigation purposes.

Indoor Environmental Quality

Massport will work towards the goal of providing a high level of indoor environmental quality in those areas within its control and will encourage similar measures for the fit-outs of the rental car companies' spaces. Tenant occupied spaces will have individual thermostats, humidity and/or ventilation controls to improve the comfort of occupied spaces and conserve energy in unoccupied areas. Entry lobbies will include fixed entryway systems to capture dirt and other particles. Storage areas for hazardous chemicals or fumes will be vented or drained to prevent re-circulation of contaminants. The SWSA Redevelopment Program will specify and install low VOC-emitting building materials for adhesives, paints, sealants, coatings, carpets, and other products, where available. The design of the SWSA Redevelopment Program optimizes natural day lighting, passive solar gain, and natural ventilation (for the Garage Structure) where applicable and feasible in order to create a more inviting/healthy indoor environment while reducing the use of energy for lighting and/or ventilation (see 'Daylighting' section below).

During construction, Massport will require the contractor to prepare and implement an Indoor Air Quality (IAQ) Management Plan to protect filters and other sensitive equipment from dust and/or moisture.

Daylighting

It is intended that during the day, sunlight will be the primary source of lighting of the CSC common space. Daylighting, with potential to enhance the public space as well as be a sustainable design approach, will be a key driver of the architecture of the CSC:

- Daylighting can be a significant energy reduction strategy, resulting also in a commensurate reduction of greenhouse gas emissions;
- Sunlight will be the primary source of lighting of the common space;
- Clerestory windows oriented for capture of south sun, the highest levels of natural lighting possible, require protection with overhangs/light shelves to control of direct light and glare, and to redirect light to the ceiling as the source of ambient light.

Figure 2.1 shows a view of the CSC from Harborside Drive and highlights a few of the proposed sustainable features, including solar panels and window glazing to balance the daylighting strategies for the interior of the CSC common area. Figure 2.2 depicts daylighting of the CSC common areas and other sustainable design strategies specific to the interior.

Building Materials

While building material components and finishes have not yet been selected, design criteria established by the design team in close coordination with Massport for exterior applications will have been developed and include contextual appropriateness, durability, longevity, and environmentally benign maintenance. The criteria will inform the final design process.

Sustainable materials with a high percentage of recycled contents, sourced and manufactured locally (within 500 miles of the Site), and with low-VOC emitting qualities are preferable. Materials that typically contain recycled products include steel, concrete, and numerous interior finishes such as carpet, tile, and interior fabrics. While interior finishes for tenant spaces will ultimately be selected by each individual rental car companies, Massport will require tenants to adhere to above-mentioned criteria, where applicable.

Examples of sustainable exterior materials that could be specified include:

- Clay Products, including brick and terra-cotta;
 - Fly-ash (an industrial by-product that can be added to concrete) or precast concrete (recycled/industrial by-product content and sustainable production processes);
 - Channel glass (recycled content and sustainable production processes); and/or
 - Green screen (plantings on façade of building).
-
- Interior finishes of a natural material palette, that maximize sustainable features may include:
 - Terrazzo Flooring, a Massport standard (Recycled glass aggregate);
 - Timber Structure (provides warmth, durability and is cost-effective);
 - Renewable resource, sustainable products such as bamboo;

- Concrete (Cementitious) Surfaces (durable, refined, textured, enhanced with daylight;
- Recycled glass or plastic walls and screens.

Construction

Temporary environmental impacts due to construction activities generally include dust, air emissions from construction vehicles/machines, noise, stormwater runoff, contamination, and solid waste. The following provides a list of construction-related sustainable measures Massport has committed to implementing:

- Erosion and Sedimentation Control Program.
- Diverting and/or reducing (through recycling) construction waste to landfills as part of its Construction Management Plan. Through the LEED certification process, Massport will be required to track and report construction waste of which GHG emissions could be calculated. It is expected that 75 percent or more of the construction waste will be diverted/reduced.
- Retrofit diesel construction equipment with diesel oxidation catalysts and/or particulate filters, in accordance with the Clean Air Construction Initiative (CACI)
- Construction worker vehicle coordination and trip limitation, including requiring contractors to provide off-airport parking use of high-occupancy vehicle transportation modes for employees, and become interim members of the Logan TMA.
- Select high efficiency “temporary” space heating/cooling systems.
- Remove older fueling systems and associated tanks (in accordance with applicable public safety regulations), and replace with new state-of-the-art systems (as discussed in Chapter 9, *Soil and Groundwater Conditions* of the 2008 Draft EIR/EA).
- Remediate subsurface contamination, as necessary, if encountered during tank removals or other excavation activities as part of construction.
- Soil treatment and reuse on-site as part of a Soil Management Plan.
- Implement Indoor Air Quality (IAQ) Management Plan during construction.



Massport Sustainable Project Operations

The Program will include sustainable operational elements, including monitoring and assessment of environmental performance, allowing policies and programs to be developed, implemented, and evaluated. Refer to the ‘Rental Car Agencies Sustainable Policies and Operations’ section below for other potential sustainable operations of the rental car agencies.

Recycling

Massport will institute a goal of 50 percent reduction in operations waste by implementing a recycling program designed to facilitate recycling of mixed paper, newspapers, plastics, metals, glass, cans, and cardboard by employees and customers. Massport will provide adequate space for sorting, storage, and pick-

up of recyclable materials in each of the proposed buildings and within the service areas. During operations, in order to meet and confirm this goal, Massport will track the program.

Water Quality

The U.S. EPA issued a National Pollutant Discharge Elimination System (NPDES) permit for Logan Airport—NPDES Permit MA0000787 (effective September 29, 2007). Outfalls that serve the SWSA (Maverick Street and Porter Street outfalls) are included in this comprehensive NPDES permit. To maintain stormwater runoff quality, in compliance with the requirements of the current NPDES permit, Massport conducts on-going monthly and quarterly stormwater sampling from the North, West, Porter Street, and Maverick Street Outfalls. The monthly samplings include pH, oil and grease, total suspended solids (TSS), benzene, surfactants, fecal coliform, and enterococcus during both wet and dry weather and the quarterly samples test for eight different polynuclear aromatic hydrocarbons (PAHs) during wet weather. Additional sampling requirements of the NPDES permit include sampling for deicing compounds twice during the deicing season (October through April) at the North, West, Porter Street, and airfield outfalls (a minimum of seven). In addition, Best Management Practices, such as street sweeping and drain cleanout are employed.

Energy Efficiency

Through utilization of the proposed Energy Management System (EMS), Massport will measure the actual energy efficiency against the intended energy efficiency of the building design (an expected twenty percent reduction) through the collection of operational data. Also, with the proposed automated energy tracking system for the Program, Massport will be able to monitor, control, and optimize the long-term energy performance of the building's heating/cooling and/or lighting systems. Then actions could be taken to optimize the systems' performance (including building re-commissioning). The EMS will include specific elements, including the ability to adjust and maintain set points and schedules, indicate problems, and provide feedback on energy use trends and operating history.



Rental Car Agencies Sustainable Policies and Operations

In addition to the sustainable measures built into the program design, a large part of future environmentally friendly operational initiatives will be contributed by the rental car industry themselves. Most rental car companies maintain a corporate environmental policy that outlines their sustainable initiatives and commitments. The environmental policies vary from company to company. The majority of the rental car company policies include one or all of the following:

- A fleet of high efficiency vehicles, hybrid vehicles, and/or alternative fuel vehicles;
- Water reclaiming and recycling for car washing;
- Vehicle maintenance-related parts and/or fluid (e.g., motor oil) recycling;
- Environmentally-sensitive chemicals for vehicle cleaning/detailing;
- Solid waste recycling;

- Community programs, such as tree plantings; and
- Carbon offset programs.

While the above summarizes the current corporate guidelines and sustainable policies of the primary rental car companies at Logan Airport, particular practices at each rental car company varies by location. It is anticipated that with the designation of a LEED certified location that the individual rental car operations within the facility will be designated as “Green Locations” by their companies. Refer to Appendix C for a copy of the rental car companies’ environmental policies and/or initiatives.

Each rental car company is aware and supportive of Massport’s commitment for the SWSA Redevelopment Program to meet the MA LEED Plus requirements and strive to achieve of LEED Silver certification. Through open discussions and negotiations with Massport regarding construction and operational issues, the rental car companies are expected to help meet the sustainability goals. The rental car industry, through the Massport TAA process, will fit out their individual tenant spaces to comply with applicable sustainable design criteria of the Program. The rental car industry has fully supported this measure at other locations where sustainable design measures have included interior finishes, maximizing daylighting to conserve energy, and operational programs such as extensive recycling of all office and maintenance waste products.

The rental car companies will continue to offer high efficiency vehicles and have agreed to continue to increase such offerings, contingent upon manufacturer availability and market demand. Similar commitments have been discussed with regard to maintaining a supply of hybrid or alternative fuel/low-emitting vehicles; however, each company has stated that they cannot confirm a specific number of vehicles to be available at any given time. This stems from a lack of hybrid/alternative fuel vehicle availability from manufacturers and/or a lack of demand for such vehicles by the renting customers. However, the rental car industry has agreed that hybrid and alternative fuel/low-emitting vehicles will continue to be offered within the Boston market and are supportive of research and development to find alternative and environmentally friendly fuels. Finally, all companies are open to consideration of preferred parking and specialty signage for hybrid and alternative fuel/low-emitting vehicles.



Tenant Guidelines/Manual

Sustainable measures related to site improvements, such as LID stormwater management measures, reduced potable water demand for irrigation, and roadway/transportation improvements (such as roadway and intersection improvements and pedestrian and bicycle facilities, as well as a number of TDM measures) are controlled by Massport and will be implemented, as described herein. As discussed above, Massport does not control the business operations or fit-out of the rental car spaces, which will be completed by the users as they are identified. For those sustainable elements not directly controlled by Massport, a set of tenant guidelines will be developed in the form a Tenant Manual, which will either mandate or encourage specific sustainable measures (by providing assistance and/or information for consideration), where applicable, reasonable and/or feasible. Each tenant and its design team would be provided with a copy of the Manual upon executing a lease.

The car wash wastewater reuse system is a site-wide system that all future rental car companies will be required to continue to utilize. Also, Massport is committed to working with the rental car companies to

incorporate energy reduction measures as part of construction and/or fit-out in the tenant spaces, which are expected to result in additional stationary source CO₂ emissions benefits (reductions). To assist future rental car companies in evaluating and/or implementing an energy-efficient fit-out of their space, Massport will include energy-efficient options in the standard commercial interior specifications as part of the Tenant Manual, where applicable.

During operations, every future rental car company will be required to participate in the Logan TMA aimed at reducing employee single-occupant vehicle trips and a program-wide recycling program aimed at reducing waste by a minimum of 50 percent (described above). Additionally, Massport will require that all rental car companies provide educational displays describing the sustainable design measures associated with the Program as well as promote the availability of low-emission vehicles for customer awareness.

Greenhouse Gas Emissions Assessment

The Executive Office of Energy and Environmental Affairs (EEA) recently developed and issued the *MEPA Greenhouse Gas Emissions Policy and Protocol* (the “GHG Policy”) – a policy and protocol that requires project proponents to identify and describe the feasible measures to minimize both mobile and stationary source GHG emissions⁹. Mobile sources considers vehicles traveling to and from a project where stationary sources considers on-site boilers, heaters, and/or internal combustion engines (direct sources) as well as from the consumption of energy in the form of fossil fuels (indirect sources). Greenhouse Gases include several air pollutants, such as carbon dioxide (CO₂), methane, hydrofluorocarbons, and perfluorocarbons. The GHG Policy calls for the evaluation of CO₂ because it is the predominant contributor to global warming and CO₂ emissions can be reasonably calculated. EPA has not set National Ambient Air Quality Standards (NAAQS) for GHGs; however, it encourages implementing strategies to reduce emissions and save fuel.

The GHG Policy requires that all projects undergoing review by the MEPA Office at the EIR level to quantify the Project’s GHG emissions and identify measures to avoid, minimize, or mitigate such emissions. In addition to quantifying project-related GHG emissions, the GHG Policy requires proponents to quantify the effectiveness of proposed improvements in terms of energy savings and, therefore, potential emissions reductions. The goal of the GHG Policy is to identify measures to reduce or minimize the GHG emissions.

This GHG assessment addresses specific issues raised in the Secretary’s Certificate on the 2009 NPC issued December 23, 2009 (as listed above under the ‘Introduction’ section). As discussed with the MEPA Office at follow-up meetings subsequent to the filing of the 2008 Draft EIR/EA, because the SWSA Redevelopment Program is in the conceptual design phase, the information is a snapshot of the status of the program design as of March 2010. As the program progresses into final design, various elements will become better defined, including façade treatment, landscape plans, and utilities as well as building functioning, such as mechanical, electrical and heating/cooling systems (all of which will aim to reduce GHG emissions).

▼
9 *MEPA Greenhouse Gas Policy and Protocol*, Executive Office of Energy and Environmental Affairs, effective November 1, 2007 (revised version effective February 3, 2009).



Mobile Source CO₂ Assessment

The following summarizes the methodology for calculating mobile source GHG emissions and presents the results for all analysis conditions.

Mobile Source Assessment Methodology

The mobile source GHG assessment is based on traffic data (volumes and speeds) and emission factors for GHG sources for existing and future conditions. The purpose of the mobile source GHG assessment is to estimate the area-wide emissions of CO₂ during a typical day in the peak ozone season (summer) and demonstrate that the SWSA Redevelopment Program will comply with the GHG Policy by identifying and implementing feasible and reasonable measures to minimize GHG emissions. While EPA has not set NAAQS for GHG emissions, it encourages proponents to develop and implement strategies to reduce emission and save fuel.

The mobile source GHG assessment evaluated the change in emissions from the average daily traffic volumes, roadway lengths, and vehicle emissions. Using EPA-recommended air quality modeling techniques, total pollutant emissions were calculated for the Program's phases under the existing and future no-build and build conditions (Appendix C). The GHG study area, at a minimum, includes all the roadway links and intersections that are projected to experience a ten percent increase in traffic from the project and that experience a Level-of-Service (LOS) designation of "D" or lower under existing or future conditions.

Emission Rates for GHG Analyses

The vehicle emission factors used in the GHG analysis were obtained using the EPA's MOBILE6.2¹⁰ emissions model. Appropriate GHG emission factors were obtained from the U.S. EPA and Intergovernmental Panel on Climate Change (IPCC) including the MOBILE6.2 program were listed in the 2008 Draft EIR/EA (Appendix E).¹¹ MOBILE6.2 calculates emission factors from motor vehicles in grams per vehicle-mile for existing and future conditions. The emission rates calculated in this air quality study are adjusted to reflect Massachusetts-specific conditions such as the vehicle age distribution, the statewide Inspection and Maintenance (I/M) Program, and the Stage II Vapor Recovery System.¹² CO₂ emission factors for the GHG analysis were determined using the DEP-recommended temperatures for the summer (ozone) season.

Traffic Data Inputs

The GHG air quality study used traffic data (volumes, delays, and speeds) developed for each analysis condition. The GHG analysis for CO₂ emissions used typical daily peak and off-peak traffic volumes for the ozone season (summer). Vehicle speeds are developed based upon traffic volumes, observed traffic flow characteristics, and roadway capacity. The inputs for this analysis (i.e., motor vehicle fleet mix, fuel usage,



- 10 MOBILE6.2 (Mobile Source Emission Factor Model), The May 2004 release from US EPA, Office of Mobile Sources, Ann Arbor, MI.
- 11 Emission factors are based on data contained in the US EPA emissions models MOBILE6.2 and NONROAD and for stationary sources from Volume 2 of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
- 12 The Stage II Vapor Recovery System is the process of collecting gasoline vapors from vehicles as they are refueled. This requires the use of a special gasoline nozzle at the fuel pump.

and VMT) were obtained from Massport's planning studies and design documents developed in support of the SWSA Redevelopment Program.

Existing Mobile Source CO₂ Emissions

Existing mobile sources in the SWSA include rental car operations and individual shuttle bus trips. As shown in Table 2-2 below, total CO₂ emissions associated with mobile sources associated with the SWSA under the 2007 Existing Condition are estimated to be 14,282 tons per year. These results provide a basis of comparison for the change in future-year CO₂ emissions attributable to the proposed program.

Future Mobile Source CO₂ Emissions

Future-year GHG emissions associated with the SWSA are summarized and discussed in this section for both the 2013 and 2018 No-Build/No-Action and 2013 Interim Build and 2018 Build Conditions. Table 2-1 below summarizes the mobile source CO₂ emissions results depending upon the fuel-type assumption for the Unified Bus System. Consideration is being given to Clean Diesel Hybrid and Compressed Natural Gas (CNG) vehicles.

Table 2-2
Mobile Source CO₂ Assessment Results (tons per year)

Assumption for the Unified Bus System Fuel-Type	2007 Existing Condition ¹	2013 No-Build/No-Action ¹	2013 Interim Build ¹	Percent Change (Reduction) ³	2018 No-Build/No-Action ¹	2018 Build (Full Build) ²	Percent Change (Reduction) ³
Clean Diesel Hybrid Option	14,282	14,352	9,442	(34%)	15,126	9,272	(39%)
Compressed Natural Gas (CNG) Option	14,282	14,352	9,746	(32%)	15,126	9,628	(36%)

1 The 2007 Existing and future No-Build/No-Action Conditions do not assume the Unified Bus System or its fuel type options and, therefore, the estimated CO₂ emissions are the same in each row and are used for comparison purposes.

2 All proposed improvements, as described in 'Mobile Source-Related Improvements' section below, will be implemented as part of the future Build Conditions. Mobile source improvements/benefits include reduced VMTs associated with the consolidated rental car operations and Unified Bus System, the proposed roadway/traffic improvements and the implementation of TDM measures.

3 Percent Reduction equals the reduction between No-Build/No-Action and Build Conditions divided by the No-Build/No-Action Condition (i.e. the larger emissions condition).

Future No-Build/No-Action Conditions

By 2013, total CO₂ emissions associated with the No-Build/No-Action Condition are estimated to be 14,352 tons per year under the (without the proposed SWSA Redevelopment Program). By 2018, under this same condition, this value is expected to increase to 15,126 tons per year due to the projected increase in airport operations and associated passenger levels (including passenger activities such as renting a rental vehicle at the airport).

The increase in mobile source CO₂ emissions from the 2007 Existing Condition to the 2013 No-Build/No-Action Condition is attributable to the forecasted increase in airport operations and, therefore, VMTs (and the

associated fuel use) by motor vehicles traveling to and from the facility and moving about the internal roadway network, parking lots, and vehicle staging areas combined with the planned addition of the Advantage rental car company to Logan Airport as an off-site operator from the Hertz site on Route 1A/McClellan Highway in East Boston. However, a couple of factors minimize how much the mobile source CO₂ emissions increase from the 2007 Existing Condition to the 2013 No-Build/No-Action Condition. Vehicle-miles-travelled benefits associated with the future No-Build/No-Action Conditions include the relocation of Enterprise from off-airport to the SWSA and the planned consolidated rental car shuttle bus operation between the Alamo and National rental car companies. As a result of these beneficial factors the mobile source CO₂ emissions increase by only 70 tons per year in 2013 and then jump to an increase of 844 tons per year in 2018 compared to the 2007 Existing Condition.

Future Build Conditions

In the future, mobile source CO₂ emissions are associated with the rental car vehicles traveling to and from the SWSA as well as taxis and other service vehicles, including the Unified Bus System (which is assumed to utilize an alternative, low-emitting fuel).

The SWSA Redevelopment Program is projected to decrease 2013 Interim Build and 2018 Build Conditions mobile source CO₂ emissions as compared to the corresponding 2013 and 2018 No-Build/No-Action Conditions. This decrease is attributed to beneficial measures and/or improvements as part of the proposed program, specifically the fuel-efficient/alternative fueled Unified Bus System that will reduce the rental car shuttle bus fleet by 70 percent and, therefore, the associated VMTs reduced substantially.

Under the 2013 Interim Build Condition, mobile source CO₂ emissions associated with the SWSA Redevelopment Program would be 9,442 tons per year of mobile source CO₂ emissions with the Unified Bus System Clean Diesel Hybrid Option and 9,746 tons per year of mobile source CO₂ emissions with the Unified Bus System CNG Option. Both values represent a 34 percent decrease from the 2013 No-Build/No-Action Condition. The mobile source CO₂ emissions percent reduction for 2013 Interim Build Condition was calculated as follows:

$$\text{Reduction \%} = \frac{(\text{No-Build/No-Action Condition} - \text{Build Condition})}{\text{No-Build/No-Action Condition}}$$

Under the 2018 Build Condition, mobile source CO₂ emissions associated with the SWSA Redevelopment Program would be 9,272 tons per year of mobile source CO₂ emissions under the Unified Bus System Clean Diesel Hybrid Option and 9,628 tons per year of mobile source CO₂ emissions under the Unified Bus System CNG Option. These values represent a 39 percent and 36 percent decrease from the 2018 No-Build/No-Action Condition.

Table 2-2 above demonstrates that the Program is projected to result in a reduction in mobile source CO₂ emissions under both 2013 Interim Build and 2018 Build Conditions when compared to the No-Build/No-Action Condition of the same year. In summary, these reductions are attributable to a number of beneficial measures and/or improvements as part of the proposed program. Specific details of these proposed improvements are discussed below in the 'Mobile Source-Related Beneficial Measures and Improvements' section below.

Mobile Source-Related Beneficial Measures and Improvements

The mobile source assessment above indicates that the even without the proposed program, the relocation of Enterprise rental car company and the projected reduction in off-airport car movements will result in a decrease in mobile source CO₂ emissions.

As demonstrated in Table 2-2 above, the SWSA Redevelopment Program in itself provides substantial benefits for mobile source GHG emissions. With the implementation of the proposed program, there is a projected reduction of 34 percent of mobile source CO₂ emissions under the 2013 Interim Build Condition with either Unified Bus System fuel option and a reduction of 39 percent and 36 percent in mobile source CO₂ emissions under the 2018 Build Condition with either the Unified Bus System with the Clean Diesel Hybrid Option or CNG Option, respectively. These reductions are associated with:

- The Unified Bus System (a reduction of approximately 50 percent with a consolidated shuttle bus fleet compared to running separate shuttles for seven rental car companies).
- The forecasted decrease in VMTs by motor vehicles using the facility and the associated fuel use (rental car and customer vehicles moving from off-site/off-airport to the SWSA, including the Thrifty rental car company);
- The forecasted decrease in VMTs by motor vehicles using the facility associated ground access improvements; and
- The proposed TDM measures, including RAC participation in the Logan TMA.

As presented in Chapter 7, *Beneficial Measures/Draft Section 61 Findings*, Massport will implement strategies that will improve intersection capacity, traffic safety, traffic flow and progression as well as implement TDM measures (as discussed previously under ‘Sustainable Design Elements’) in an effort to reduce Program-generated vehicle trips and minimize peak-period traffic demands in the study area. As previously mentioned, Massport does not control the current or future business operations of the rental car companies; however, most of the rental car companies currently have corporate policies that aim at reducing their overall carbon footprint. Additionally, Massport is committed to working with tenants to implement measures to further reduce mobile source CO₂ emissions (e.g., additional TDM measures). Any additional TDM measures are expected to further reduce the CO₂ emissions.



Stationary Source CO₂ Assessment

Stationary source CO₂ emissions include on-site boilers, heaters, and/or internal combustion engines (direct sources) as well as from the consumption of energy in the form of fossil fuels (indirect sources).

Stationary source GHG emissions associated with the program will be minimized by reducing the overall energy use by a minimum of 20 percent compared to a conventional facility that meets minimum current MA Building Energy Code requirements.¹³ The design approach to reduced energy demand is three-fold:



¹³ Massachusetts Building Code, 780 CMR, 7th Edition (2008).

- Appropriately designed and sized building systems;
- Incorporation of energy-efficient systems; and
- Self-generation of energy (2.5 percent on-site renewable energy).

Since the 2008 Draft EIR/EA, the MA Building Code requirements have changed (from Edition 6 to Edition 7 in September 2008), where the Code now refers to parts of the International Energy Conservation Code (IECC) resulting in more stringent requirements. Additionally, in keeping with the above-mentioned approach to energy conservation, advancements have been made related to the design and building energy needs, which has better informed the anticipated overall energy distribution and fuel usage.

The following section describes the methodology for calculating direct and indirect stationary source CO₂ emissions and presents the results for future build conditions, in accordance with the GHG Policy.

Stationary Source CO₂ Assessment Methodology

The direct and indirect CO₂ emissions from the Project's proposed building sources were calculated using the computer-based EQUEST model¹⁴. Direct emissions include those emissions from the facility itself such as boilers, heaters, and internal combustion engines. Indirect emissions includes CO₂ emissions from the consumption of electricity, heat, or cooling from off-site sources such as electrical utility or district heating and cooling systems. The EQUEST model estimates the amount of energy consumed by a building from electricity and gas usage. Then the amount of consumed energy is converted into the amount of CO₂ emitted using the standardized conversion factor.¹⁵

In accordance with the GHG Policy, the stationary source analysis calculates GHG emissions for the following conditions:

- **Scenario 1: 2018 Baseline Build Condition.** The proposed site layout plan, as illustrated in Figure 1.4, using standard construction materials and rooftop equipment that meet the minimum requirements of the current MA Building Code as the baseline condition to compare to the design alternatives.¹⁶
- **Scenario 2: 2018 Build with Improvements Condition (Preferred Design Case).** The proposed site layout plan with an energy efficiency performance standard applied (a minimum 20 percent), which assumes design elements and building systems more energy efficient than what is required by Code, including the incorporation of on-site renewable energy (e.g., solar or wind) for at least 2.5 percent of the total electricity demand.
- **Scenario 3: 2018 Build with Alternative Improvements Condition.** The proposed site layout plan with the energy efficiency performance standard applied and alternative improvements currently being considered that may further reduce GHG emissions, but cannot be assumed as part of the Preferred Design Case at this stage in conceptual design.

14 EQUEST (the Quick Energy Simulation Tool), version 3.60 release from James J. Hirsch, DBA James J. Hirsch & Associates, Camarillo, CA

15 1107 lb CO₂/MWh was used to convert electricity consumption into the amount of CO₂ emissions (ISO-New England Marginal Emissions Report). 117.08 lb CO₂/Mbtu was used to convert gas consumption into the amount of CO₂ emissions (The Energy Information Administration Documentation for Emissions for GHG).

16 Massachusetts Building Code, 780 CMR, 7th Edition (2008).

A key design goal for the Garage Structure is to maintain a building code classification of 'open parking structure' to allow for daylight and natural ventilation; thereby, avoiding the need for energy from intensive heating and ventilation systems. This would save both energy resources and reduce costs.

Therefore, for both baseline and design cases, the Garage Structure is assumed to be open air as a design criteria verses enclosed, which would require substantial ventilation resulting in an increase in energy demand and, therefore, CO₂ emissions. For those building spaces not under control by Massport (i.e., rental car company retail portions of the CSC and Garage Structure and QTAs, the baseline assumptions were used (current MA Building Code minimum requirements).¹⁷

Scenario 2, or the 2018 Build with Improvements Condition (the Preferred Design Case), includes a menu of building system and operational improvement assumptions that will continue to be evaluated and confirmed as part of final design – all of which are aimed at achieving a minimum energy efficiency performance standard of 20 percent over the current MA Building Code minimum requirements, in accordance with MA LEED Plus. For the purposes of this stationary source GHG assessment, in accordance with the GHG Policy, the baseline is assumed to be the current minimum MA Building Code requirements and the metric is energy consumption converted into GHG emissions (CO₂) in tons per year.

Future Build Stationary Source CO₂ Emissions

The SWSA Redevelopment Program stationary sources include direct emissions such as boilers, heaters, and internal combustion engines as well as indirect emissions from the consumption of energy (use of electricity and fossil fuels). The following section presents the findings of the stationary source (direct and indirect) CO₂ emissions assessment for the future build conditions. Table 2-3 below summarizes the stationary source CO₂ emissions results.

Table 2-3
Stationary Source CO₂ Emissions for the 2018 Build with Improvements (Scenarios 1 and 2)
(tons per year)

2018 Baseline Build Condition (Scenario 1) ¹	2018 Build Condition w/ Improvements (Scenario 2) ²	2018 Reductions Due to Project Improvements ²	Percent Reduction of Project Improvements to Project Emissions
1,549	1,239	310	20%

1 Includes the 2018 Baseline Build Condition using typical construction materials and rooftop equipment that meet the minimum requirements of the current MA Building Code (2008).

2 The currently proposed program with an energy efficiency performance criterion of 20 percent, in accordance with MA LEED Plus requirements. Refer to the 'Proposed Stationary Source-Related Improvements for the 2018 Build with Improvements Condition (Scenario 2)' section below.

Scenario 1: 2018 Baseline Build Condition

The 2018 Baseline Build Condition (Scenario 1) assumes the proposed site layout plan (Figure 1.4) using typical construction materials and rooftop equipment that meet the minimum requirements of the current MA Building Code (2008) as the baseline condition to compare to the design alternatives. Under the



17 Massachusetts Building Code, 780 CMR, 7th Edition (2008).

2018 Baseline Build Condition (code compliant), CO₂ emissions were estimated to be approximately 1,549 tons per year (Table 2-3).

Scenario 2: 2018 Build with Improvements Condition (Preferred Alternative)

The 2018 Build with Improvements Condition assumes the proposed site layout plan with a minimum 20 percent energy efficiency performance standard applied. Under the 2018 Build with Improvements Condition, the stationary source CO₂ emissions were estimated to be 1,239 tons per year, which results in a decrease of 310 tons per year compared to the 2018 Baseline Build Condition (Table 2-3). This represents an approximately 20 percent reduction from the estimated 1,549 tons per year of CO₂ 2018 Baseline Build Condition (code compliant). The stationary source CO₂ emissions percent reduction for 2018 Build Condition with Improvements was calculated as follows:

$$\text{Reduction \%} = \frac{\text{Reductions Due to Project Improvements}}{\text{2018 Baseline Build Condition}}$$

Therefore, the percent reduction in stationary source emissions due to project improvements is: $310/1,549 = 0.20 \times 100 = 20\%$ (Table 2-2).

As demonstrated by the stationary source GHG emissions assessment summarized in Table 2-3 above, the commitment to a reduced energy use and, therefore, CO₂ emissions, of at least 20 percent, by a menu of potential improvements evaluated at this level of conceptual design (discussed further below under 'Proposed Stationary Source-Related Improvements').

Scenario 3: 2018 Build with Alternative Improvements Condition

In compliance with the GHG Policy, Massport has considered and will continue to consider, as part of final design, alternative improvements that could result in additional GHG emissions benefits related to the SWSA Redevelopment Program. Such improvements could include the incorporation of Energy Star appliances and other high-efficiency office equipment, and/or expanding on-site renewable energy capacity (discussed further below under 'Proposed Stationary Source-Related Improvements').

The 2018 Build with Alternative Improvements Condition assumes the proposed site layout plan with a minimum 20 percent energy efficiency performance standard applied as well as additional improvements, such as increase on-site renewable energy capacity (up to 5 percent of total electricity demand) which would be contingent upon securing state and/or federal financial assistance. Table 2-4 below presents the stationary source CO₂ emissions results for the use of 5 percent of renewable energy.

Table 2-4**Stationary Source CO₂ Emissions for the 2018 Build with Alternative Improvements (Scenario 3)**
(tons per year)

2018 Baseline Build Condition (Scenario 1) ¹	2018 Build Condition w/Alternative Improvements (Scenario 3) ²	2018 Reductions Due to Project Improvements ²	Percent Reduction of Project Improvements to Project Emissions
1,549	1,213	336	22%

1 Includes the 2018 Build Condition using typical construction materials and rooftop equipment that meet the minimum requirements of the current MA Building Code (2008).

2 The Program with an energy efficiency performance criterion of 20 percent, in accordance with MA LEED Plus requirements, plus 5 percent renewable energy. Refer to the 'Proposed Stationary Source-Related Improvements for the 2018 Build with Alternative Improvements Condition (Scenario 3)' section below.

Under the 2018 Build with Alternative Improvements Condition, the stationary source CO₂ emissions were estimated to be 1,213 tons per year, which results in a decrease of up to 336 tons per year compared to the 2018 Build Condition, or baseline (Scenario 1) and up to an additional reduction of 26 tons per year of CO₂ emissions compared to the 2018 Build with Improvements (Scenario 2). This represents up to an approximately 22 percent reduction from the baseline case. The stationary source CO₂ emissions percent reduction for 2018 Build with Alternative Improvements was calculated as follows:

$$\text{Reduction \%} = \frac{\text{Reductions Due to Project Improvements}}{\text{2018 Baseline Build Condition}}$$

Therefore, the percent reduction in stationary source emissions due to project improvements is: $336/1,549 = 0.22 \times 100 = 22\%$.

Proposed Stationary Source-Related Improvements (Scenarios 2 and 3)

This section describes the building-related improvements assumed as part of the building energy modeling under Scenario 2 as well as additional proposed improvements that are anticipated to result in reduced stationary source GHG emissions as a result of the Program, but were not able to be modeled or quantified under Scenario 2. This section also discusses the additional improvements assumed under Scenario 3, which would be considered/evaluated further through final design in order to potentially further reduce stationary source GHG emissions.

Proposed Stationary Source-Related Improvements for the 2018 Build with Improvements Condition (Scenario 2)

While a substantial amount of energy would be saved with the open garage design with natural ventilation due to the reduced need for energy-consuming ventilation, or HVAC, systems no credit was taken as it was assumed as a design standard for all conditions (Scenarios 1, 2 and 3).

In an effort to minimize the GHG emissions that would potentially result from the Program, Massport has committed to consider and evaluate through final design several physical and operational improvements that would meet the 20 percent energy efficiency performance criteria, in compliance with the MA LEED Plus

program. By understanding the overall energy distribution of the proposed program, a larger portion of energy savings is expected to be realized by:

- Reduced lighting intensities (watts per square foot) for the Garage Structure, surface parking lots and building interiors by utilizing high-efficiency lighting, such as emitting diode (LED) lighting;
- Efficient ventilation, or HVAC, systems in the conditioned spaces (specifically, the CSC and QTA buildings); and
- Utilization of an on-site renewable energy source.

The following is a representative list of the beneficial design measures and building systems specifications that are considered more efficient than the minimum requirements of the current MA Building Energy Code (2008) and have been assumed based on conceptual design to meet the 20 percent energy efficiency performance criteria (and may be modified through final design). As discussed above under 'Sustainable Planning and Design', the Program also provides for substantial sustainable design and operational elements which, while not directly factored in this assessment, nonetheless promote key sustainable development principles.

Architectural Design/Treatments

- Increased wall insulation for the CSC and QTA buildings compared to Code requirements.
- Increased roof insulation for the CSC and QTA buildings compared to Code requirements.
- Highly-reflective roofing materials.

Efficient Equipment and Building Systems

- High-efficiency lighting in Garage Structure (a lighting power density of 0.17 watts per square foot compared to 0.3 watts per square foot required by Code);
- High-efficiency lighting for surface parking lots (a lighting power density of 0.1 watts per square foot compared to 0.15 watts per square foot required by Code);
- High-efficiency lighting for interior spaces (a lighting density of 0.9 watts per square foot compared to 1.0 watts per square foot required by Code);
- Incorporate motion sensors for lighting in all common spaces;
- A variable air volume (VAV) HVAC system is proposed for the CSC (consisting of modular air handling units with hot water heating coils, chilled water cooling coils, filters, fans with variable speed drives, and airside economizers).
 - This system is efficient in that it varies the amount of air supplied to specified thermal zones in order to maintain the zone at its required set point.
 - Energy conservation measures to be considered/incorporated through final design include: high efficiency chillers, premium efficiency motors, high efficiency condensing type boilers and/or carbon dioxide sensors control ventilation/outside air flow rates based on number of occupants.
- A gas fired hot water boiler will provide building heat for the QTAs. The Level 1 service bays and storage rooms will be heated using hot water unit heaters. The dispatch office will be heated and

cooled by a through wall packaged terminal air conditioner. The equipment room and bathrooms will be heated using hot water terminal units. Electric unit heaters will be provided for the electric rooms. The Level 2 administration area will be heated and cooled by fan coil units with hot water heating coils and DX cooling coils. Roof mounted air cooled condensing units will serve each DX cooling coil.

- Energy conservation measures to be considered/incorporated through final design include: providing high efficiency condensing type boilers; using low intensity gas fired infrared heaters for the service bays; high efficiency condensing units; airside economizers for fan coil units; providing carbon monoxide detection system to control the exhaust system whenever the CO levels exceed limits; and using high efficiency air cooled condensing units for the administrative areas.
- Incorporate climate control sensors in all common spaces.
- Install a Building Management System, including the capacity to adjust and maintain set points and schedules, indicate problems, and provide information on trends and operating history (not modeled, as described further below).

Renewable Energy

On-site renewable energy (energy generated from natural resources which are naturally replenished) in the form of solar PV panels and/or wind turbines, representing an approximately 2.5 percent of estimated annual electricity consumption, will be installed as part of the proposed program. Solar power was initially considered as part of the 2018 Build with Alternative Improvements (Scenario 3) as a potential improvement to provide greater CO₂ emissions reductions than the 2018 Build with Improvements (Scenario 2), in accordance with the GHG Policy. As a result of this mandated feasibility assessment, Massport found that this level of solar power is a reasonable and feasible improvement and, therefore, has committed to incorporating it as part of the Preferred Design Case, which is expected to meet and, possibly, exceed the 20 percent performance criteria established by MA LEED Plus. Additionally, the architectural design of all buildings within the SWSA will be designed and constructed to support on the rooftop several renewable energy strategies for potential future retro-fit.

Other Proposed Improvements Related to Stationary Source GHG Emissions Benefits (Scenario 2)

All of these elements are expected to further benefit the overall Project GHG impacts, but are not quantifiable either by the building energy model or at this stage of conceptual design (with the exception of potable water and wastewater efficiencies).

Daylighting Strategies

Natural daylight will be maximized through clearstory windows and/or sky lights as an energy conservation strategy which aims to reduce the need for lighting, specifically in the CSC common spaces. Window glazing will be incorporated to balance and optimize daylighting, heat loss and solar heat gain performance in all enclosed spaces.

Ongoing Building Energy Modeling

In order to: (i) ensure the proposed program meets the 20 percent energy reduction performance criteria (in support of support the MA LEED Plus requirement and the LEED certification process); and (ii) continue to optimize energy efficiency for the proposed program, the Proponent will conduct ongoing building energy modeling through final design (once users and the design team/architect(s) are identified). Energy efficiency is anticipated to be optimized by considering the effect of interior daylighting (such as the use of skylights and/or light wells) and window glazing as well as the final building systems, which will continue to be considered and evaluated as the design and building systems for the proposed program become more defined through final design.

Building Energy Tracking and Energy Management System

An Energy Management System (EMS) is an automated system of computer-aided tools used by operators to monitor, control, and optimize the long-term performance of a building heating/cooling and/or lighting system. The EMS could include functions such as daylight responsive controls that automatically dim, or turn off, lighting fixtures (both interior and exterior) as natural daylight provides adequate lighting levels. EMSs may also include the capability to track over the long-term the overall energy consumption of the Program.

As currently contemplated, the Program would include an EMS aimed at further reducing stationary source CO₂ emissions by optimizing energy use. The proposed EMS would include the specific elements, as requested in the Secretary's Certificate, including the ability to adjust and maintain set points and schedules, indicate problems, and provide feedback on energy use trends and operating history.

Water and Wastewater Efficiencies

In accordance with the Secretary's Certificate, the estimated potential stationary source GHG emissions from reductions in water demand and wastewater generation is discussed. Based on Title 5 wastewater generation guidelines, which provide a conservative projection, the average daily wastewater flow from the SWSA is estimated to be approximately 95,465 gallons per day (refer to Chapter 5, *Drainage and Wastewater* for further details).

As described above under 'Sustainable Planning and Design', the SWSA Redevelopment Program will incorporate the following reduction measures to reduce the demand of potable water and the generation of wastewater:

- Reduce water use demand by a minimum of 20 percent (to strive for 30 percent);
- Reduce irrigation demand by a minimum of 50 percent; and
- The car washes will continue to operate on 100 percent reclaim water with the exception of the rinse cycle.

In addition to the above-mentioned water/wastewater conservation measures, as discussed in Chapter 5, *Drainage and Wastewater*, the Program also includes substantial upgrades to the site drainage conditions, including modifications to the Maverick Street Outfall which will eliminate the flow of stormwater runoff to the City of Boston combined sewer outfall (CSO) and, ultimately, to the Deer Island Wastewater Treatment Plant.

The estimated stationary source CO₂ emissions associated with the water/wastewater conservation measures for the Program (Scenario 2) would be approximately 22.48 tons/year, which represents a reduction of

approximately 2.59 tons/year from the Baseline Condition, or the 2018 Build Condition without water/wastewater conservation measures (estimated at 25.07 tons/year). Refer to Appendix C for the supporting calculations for the estimated stationary source CO₂ emissions associated with wastewater conveyance.

Third-Party Commissioning

As required by MA LEED Plus, Massport intends on utilizing a third party for commissioning activities and the LEED certification processes to assure that all systems are installed and function as designed and are meeting intended performance standards, including energy efficiencies and confirm adherence to this performance standard.

Refrigerant Management

The proposed program will eliminate and/or reduce of the use of ozone-depleting and global warming-contributing based refrigerants (e.g., Chlorofluorocarbons, or CFCs) in HVAC systems.

Rental Car Company Operations

As previously mentioned, Massport does not control the business operations or fit-out of the rental car retail spaces. Some additional physical and operational improvements may be included as part of the SWSA Redevelopment Program by future tenants through the encouragement by and future negotiations with Massport, which are expected to further reduce CO₂ emissions related to the proposed program. Such measures could include the availability of high efficiency, hybrid and/or alternative-fueled vehicles for rental customers, recycling and carbon offset programs.

Proposed Stationary Source-Related Improvements for the 2018 Build with Alternative Improvements Condition (Scenario 3)

Massport has considered and will continue to consider as part of final design alternatives for incorporating additional improvements into the SWSA Redevelopment Program. These alternative improvements include:

- Incorporation of Energy Star and/or high-efficient 'non-regulated' equipment (i.e., office equipment/appliances); and
- Additional on-site renewable energy resources by expanding the on-site renewable energy capacity from 2.5 percent of the overall electricity demand to 5 percent (contingent upon financial incentives).

Energy Star/High-Efficient Equipment

As a non-regulated process load, appliances such as computers, copiers, and kitchen equipment are not specified as part of the EQUEST building energy model. At this conceptual design phase, it is not possible to understand the number and/or type of these appliances. However, Massport intends to encourage future users meet energy conservation requirements, such as using Energy Star products in the tenant spaces,, which will reduce the overall electricity consumption and, therefore, reduce stationary source CO₂ emissions.

Compared to the standard, non-Energy Star rated office equipment, Energy Star qualified office and imaging products use 30 to 75 percent less electricity than standard equipment.¹⁸

Massport will identify this requirement in the Tenant Manual to be prepared for the SWSA Redevelopment Program. Each tenant and its design team would be provided a copy of the manual upon executing a lease.

Expanded Use of On-Site Renewable Energy Sources

Massport has and will continue to consider and evaluate opportunities for the use of renewable energy sources as technology advances, in terms of their applicability to and effectiveness for the Program. Renewable energy technologies considered and evaluated included solar power, wind power, hydroelectricity/micro hydro as well as biomass and bio-fuels for transportation. Through research and discussion the design team has determined that the most viable options for on-site renewable energy sources for the proposed program would be solar and wind power.

Geothermal energy was also considered. While it is an efficient use of renewable resources, based on the project design team's preliminary assessment, it is unlikely that a geothermal heat pump system would be a cost effective approach for the SWSA Redevelopment Program because of the higher maintenance requirements and the limited flexibility of a water source heat pump system. Therefore, it was concluded that there are more cost-effective measures.

An alternative/additional improvement to the proposed program could be an expansion of the capacity (by 100 percent, or double, to a total of 5 percent) of the on-site renewable energy already proposed. Currently, as discussed above, it is financially feasible for Massport to install a Photovoltaic (PV) panel system or wind turbine system that supplies 2.5 percent of the overall electricity demand. In order to install such a system with double the capacity that would supplement up to 5 percent of the total electricity consumption, Massport would apply for financial assistance, such as state or federal renewable energy grant money and/or federal stimulus financing. This expanded on-site renewable energy source would result in an additional 2 percent reduction of stationary source CO₂ emissions compared to the Preferred Design Case. Additionally, the architectural design of all buildings within the SWSA will be designed and constructed to support the rooftop several renewable energy strategies for potential future retro-fit.

Conclusion

This chapter demonstrates that the Program complies with the GHG Policy because, in an effort to reduce GHG emissions, Massport has evaluated different alternative site layout plans and quantified the estimated GHG emissions reductions, and has committed to a minimum energy efficiency performance standard as reasonable and feasible measures to avoid, minimize, or mitigate damage to the environment. The GHG emissions analysis demonstrates that the proposed improvements meet the intent of the GHG Policy because it will result in reduced mobile and stationary source GHG emissions, when compared to the baseline condition.



18 According to the Energy Star website: http://www.energystar.gov/index.cfm?c=ofc equip.pr_office_equipment

Surface Transportation

Introduction

The SWSA has historically served as Logan Airport's ground transportation hub and currently includes seven separate rental car businesses (including the move of Enterprise on-airport), Taxi Pool, Bus and Limousine Pools, and long-term overflow commercial surface parking. To better serve the traveling public, the rental car companies, and their employees, and to reduce ground transportation and air quality impacts, Massport is proposing to construct a consolidated car rental facility garage (the "Garage Structure") with a Customer Service Center (CSC) and rental car support facilities (called Quick Turnaround Areas, or QTAs) in the SWSA. The consolidated ground transportation facilities and services would accommodate current and anticipated passenger levels through the provision of more efficient rental car, taxi, bus and limousine facilities.

The SWSA Redevelopment Program represents the replacement and consolidation of transportation service facilities that currently exist at the SWSA, elsewhere on-airport, or in the East Boston community. The SWSA Redevelopment Program will consolidate several SWSA ground transportation facilities and would result in improved airport roadway traffic conditions and more efficient shuttle bus operations. The benefits to airport-wide traffic and transportation facilities resulting from the SWSA Redevelopment Program contribute to achieving Massport's goals of:

- Providing a range of ground access options for air passengers and employees to reduce reliance on single occupant vehicles;
- Maintaining efficient roadway and curbside facilities in and around Logan Airport;
- Reducing air emissions associated with motor vehicle operations; and
- Improving bicycle and pedestrian accommodations for air passengers, employees and neighborhood residents.

In accordance with the Secretary's Certificate on the 2009 Notice of Project Change (NPC), dated December 23, 2009, this chapter includes the following:

- A revised surface transportation (traffic) analysis that reflects the changes to the Program, which includes a description of the traffic study area, analysis conditions, and the proposed Unified Bus System, and presents the existing and future traffic conditions;

- An update on how the Program fits into the public transportation access of the Airport and any upgrades to public transit systems that are proposed;
- Discussion on the Program's compliance with the DEP Logan Airport Parking Freeze; and
- An updated operations discussion, including a description of rental car parking access and egress routes and the Unified Bus System drop-off and pick-up points and circulation.

Temporary construction-related traffic impacts are presented in Chapter 6, *Construction*. Information, data, and other materials collected, developed, and utilized in support of the transportation assessment are contained in Appendix D.



Key Findings and Benefits

The rental car companies are concerned over their ability to maintain a high level of customer service within the existing, constrained SWSA facilities. Rather than allow each company to expand in an uncoordinated manner, Massport is proposing the construction of a consolidated rental car facility that provides an effective and efficient means of meeting the needs of rental car customers while also enabling other opportunities to be realized.

One of those opportunities is the Unified Bus System. The Unified Bus System would provide consistent, high-quality service for both rental car customers and MBTA passengers. The Unified Bus System would enhance service with routes dedicated to both the Departures and the Arrivals Levels of airport Terminals A, B, C and E. The Unified Bus System would provide operational efficiencies, reduce curbside congestion, and reduce vehicle miles traveled.

Key findings and benefits are as follows:

- The Unified Bus System would reduce the number of rental car shuttle buses (fleet size) by 70 percent (by eliminating 94 RAC shuttles and running a fleet of 28 vehicles instead).
- The reduced fleet size also translates to a removal 64 buses from the terminal curbsides each hour, which represents a 70 percent reduction at these congested locations. Vehicle-miles-traveled from the individual rental car shuttle bus fleets and Massport bus routes are projected to be reduced by approximately 65 percent through implementation of the Unified Bus System. This equates to a reduction of approximately 4,865 vehicle miles daily and a savings of around 400,000 gallons per year of fuel depending on the Unified Bus System fuel option.
- The resulting air quality benefits from the Unified Bus System would be further enhanced by Massport's commitment to use a clean-fuel low-emissions shuttle bus fleet.
- Without the SWSA Redevelopment Program and associated ground access improvements, the projected growth for most of the current major uses in the SWSA (rental cars, taxis, limousines) would lead to a degradation of the surrounding airport roadway and traffic congestion during Future No-Build/No-Action Conditions.
- With shuttle bus consolidation into the Unified Bus System, the projected traffic volumes entering and leaving the SWSA for the future Build Conditions would be approximately two percent less than the

traffic volumes associated with No-Build/No-Action Conditions.

- The consolidation of rental car operations, combined with proposed roadway infrastructure improvements, would improve traffic operations at the study area intersections. Proposed ramp, roadway and intersection improvements would result in peak hour traffic and daily VMT totals that are lower than the 2013 and 2018 No-Build/No-Action Conditions.
- The Program would improve pedestrian and bicycle connections to the SWSA, the community, and the airport, and provide secure and covered bicycle storage at the CSC and QTA buildings for employees, customers and the general public, as well as shower/changing facilities within the QTA buildings for employees.
- Transportation Demand Management (TDM) measures will be implemented.

Surface Transportation

This section presents an evaluation of the ground transportation aspects of the proposed SWSA Redevelopment Program. The evaluation includes assessments of traffic volumes, vehicle-miles-traveled (VMT), intersection level of service, public transportation, and proposed transportation improvements.



Methodology

The transportation analysis included in this chapter generally conforms to the Executive Office of Energy and Environmental Affairs (EEA)/Department of Transportation (Mass DOT) Guidelines for EIR/EIS Traffic Impact Assessment. Existing, 2013 and 2018 No-Build/No-Action, and 2013 and 2018 Build Conditions were evaluated in terms of available transportation facilities and expected traffic growth. The assessment of traffic operations of the study area intersections and roadway sections were completed using the procedures documented in the *2000 Highway Capacity Manual*.¹ Traffic capacity analyses for signalized and unsignalized intersections for each condition were completed using SYNCHRO 6.0 software.

Vehicle-miles-traveled calculations were derived using a spreadsheet model of estimated traffic and logical travel routes from the major airport gateways.

Transportation improvements were developed to enhance the proposed SWSA Redevelopment Program's circulation plan and mitigate both No-Build/No-Action and Build Conditions impacts. The improvements are designed in accordance with the Massachusetts Department of Transportation (MassDOT) Project Development and Design Guide.

Study Area

To determine the effect of the SWSA Redevelopment Program on the airport and surrounding ground transportation system, a study area was established that included affected transportation systems and



¹ Transportation Research Board, National Research Council, *2000 Highway Capacity Manual*, 2000.

facilities on the airport and in East Boston. The study area allows the analyses to capture, in detail, the operational characteristics of the program, and provides a basis for determining to what extent, if any, program traffic is likely to affect the wider transportation network.

The entire system of Logan Airport service roadways, including Harborside Drive, Hotel Drive, and North Service Road (SR-2), and key on and off ramps were included in the study area. With the planned temporary relocation of the Bus and Limousine Pools to the North Service Area, Frankfort Street, Lovell Street, and Neptune Road were also included. Because the majority of rental car off-airport operations are located along Route 1A in East Boston or Revere, Route 1 and Boardman Street were included in the study area to evaluate the impact of off-airport rental car shuttling. Operations at the following intersections, shown on Figure 3.1, were evaluated for all study analysis periods and conditions.

1. Harborside Drive/Porter Street/SR-14/Ramp 1A-S
2. Harborside Drive/Jeffries Street
3. Harborside Drive/Hotel Drive
4. Harborside Drive/ Hyatt Drive
5. Hotel Drive/Airport Way/Ramp T-S
6. Hotel Drive/Ramp D-S
7. Hotel Drive/SR-2
8. SR-2/Cottage Street/SR-14
9. Frankfort Street/Route 1A Off-ramp/Dave's Way
10. Neptune Rd./Route 1A Off-ramp
11. Frankfort Street/Lovell Street
12. Neptune Rd./Bennington Street
13. Route 1A/Boardman Street
14. Tomahawk Drive/Maverick Street Gate
15. Tomahawk Drive/Jeffries Street
16. Porter Street/Wellington Rd.
17. Harborside Drive/Bus Pool Driveway

Roadways and intersections in the East Boston Gove Street and Jeffries Point neighborhoods were not included in the transportation impact analysis because all access points to these neighborhoods are gate controlled and SWSA Redevelopment Program traffic would not use any of those neighborhood roadways. Traffic volumes and vehicle classifications were collected in the neighborhoods for use in the air quality and noise assessment of the SWSA Redevelopment Program.

The components of the SWSA Redevelopment Program include consolidated rental car operations, a Unified Bus System, the Logan Airport Taxi Pool, Bus and Limousine Pools, and some retained long-term overflow

commercial surface parking. Each of these ground transportation elements currently operates at the airport and their projected traffic growth is linked to the projected growth in the number of air passengers at Logan Airport. With or without the SWSA Redevelopment Program, traffic associated with the Taxi Pool, Bus and Limousine Pools and rental car operations would increase proportionally with air passenger growth. Beyond the study area, traffic impacts would be minimal because increased traffic associated with these operations would be the same for the 2013 and 2018 No-Build/No-Action and Build Conditions.

Analysis Conditions and Periods

The ground transportation system operating conditions were analyzed under the following conditions:

- 2007 Existing Condition
- 2013 No-Build/No-Action Condition
- 2018 No-Build/No-Action Condition
- 2013 Interim Build Condition
- 2018 Build Condition

These analysis conditions were selected so that changes related to background conditions could be separated from changes related to the SWSA Redevelopment Program. For example, comparison of the 2013 No-Build/No-Action Condition to the 2007 Existing Condition highlights changes due to background growth or scheduled transportation improvements irrespective of the proposed program. Comparison between No-Build/No-Action and Build Conditions in the same year show operational changes that are projected to occur because of the program. The horizon years of 2013 and 2018 were selected based on the estimated date of beneficial occupancy (DBO) of SWSA Redevelopment Program (opening of the Garage Structure and customer service building in 2013) and a five-year planning horizon from that date. Details of each analysis period and their respective analysis assumptions are summarized in Table 3-1 below.

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Table 3-1
Ground Transportation Analysis Conditions*

Program Element	2013 No-Build/No-Action Condition	2013 Build Condition	2018 No-Build/No-Action Condition	2018 Build Condition ¹
SWSA	Flight Kitchen relocated either to the North Service Area or off-airport in 2011 (at the end of the lease agreement) Bus Maintenance Facility constructed in North Service Area Enterprise Rental Car relocated to current Alamo Rental Car site in SWSA. Alamo Rental Car to share a slightly expanded National Car Rental site in SWSA.	Flight Kitchen relocated to North Service Area Bus and Limousine Pools relocated temporarily to North Service Area Bus Maintenance Facility constructed in North Service Area Taxi Pool relocated temporarily to current Lot B Eight RAC companies consolidated within the ConRAC facility, permanent QTAs 1 and 4, and temporary QTAs 2 and 3	Same as the 2013 No-Build/No-Action Condition	Flight Kitchen moved to North Service Area Bus Maintenance Facility operational in NSA Bus and Limousine Pools relocated back to SWSA (to the existing National Rental Car site) Taxi Pool relocated to SWSA (to the existing Avis Rental Car site north of Porter Street) Eight RAC companies consolidated and operational within the ConRAC facility and QTA's 1 through 4 permanently constructed and operational
Parking	No change from 2007 Existing Conditions (420-parking spaces to remain as long-term overflow commercial surface parking)	Long-term overflow commercial surface parking (at the former U.S. Postal Service site) relocated temporarily among other on-airport commercial parking facilities Cell Phone Lot relocated to lot between New Ramp D-S and SR-2 in order to accommodate Taxi Pool relocation	No change from the 2007 Existing Condition	Approximately 230 of the 420 surface parking relocated back to SWSA east of Jeffries Street. Cell Phone Lot may be relocated back to Lot B
Shuttle Bus Operations	Alamo/National to share one rental car shuttle bus operation	Unified Bus System in operation (To consolidate the existing separate rental car shuttle buses and incorporate the existing Massport bus routes that serve MBTA Blue Line Airport Station (routes 22/33/55). The Unified Bus System will use the Arrival Level and Departure Level routes.)	Alamo/National to share one rental car shuttle bus operation	Same as 2013 Build Condition
Off-Airport Rental Car	Thrifty Car Rental remains off-airport (on McClellan Highway, East Boston) Advantage Car Rental assumed to operate off-airport (Hertz site, McClellan Highway, East Boston)	No major car rental agencies operating off-airport	Thrifty Car Rental remains off-airport (on McClellan Highway, East Boston) Advantage Car Rental assumed to operate off-airport (Hertz site, McClellan Highway, East Boston)	No major car rental agencies operating off-airport

Program Element	2013 No-Build/No-Action Condition	2013 Build Condition	2018 No-Build/No-Action Condition	2018 Build Condition ¹
Airport Roadways	No change from 2007 Existing Conditions	<p>New bus ramp in place connecting SR-14 to ConRAC CSC second level</p> <p>New Ramp S-D in place connecting Harborside Drive to Ramp 1A-D</p> <p>Jeffries Street reconstructed and widened to provide one-way northbound egress from the SWSA.</p> <p>Tomahawk Drive constructed to provide one-way westbound ingress to the SWSA from Harborside Drive and Hotel Drive.</p> <p>Porter Street reconstructed to provide efficient circulation for the relocated Taxi Pool</p> <p>New traffic signal installed at the Frankfort Street and Lovell Street intersection to provide controlled access/egress to the NSA for relocated Bus and Limousine Pools traffic</p> <p>Consolidation of two Hotel Drive signalized intersections (with Ramp D-S and SR-2) to form a single, efficient intersection for general traffic and the Unified Bus System</p>	East Boston Haul Road in place connecting the Frankfort Street and Lovell Street intersection with Chelsea Street	<p>East Boston Haul Road in place connecting the Frankfort Street and Lovell Street intersection with Chelsea Street</p> <p>New bus ramp in place connecting SR-14 to ConRAC CSC second level</p> <p>New Ramp S-D in place connecting Harborside Drive to Ramp 1A-D</p> <p>Jeffries Street reconstructed and widened to provide one-way northbound egress from the SWSA.</p> <p>Tomahawk Drive constructed to provide one-way westbound ingress to the SWSA from Harborside Drive and Hotel Drive.</p> <p>Porter Street reconstructed to provide efficient circulation for the relocated Taxi Pool</p> <p>New traffic signal installed at the Frankfort Street and Lovell Street intersection to provide controlled access/egress to the NSA for relocated Bus and Limousine Pools traffic</p> <p>Consolidation of two Hotel Drive signalized intersections (with Ramp D-S and SR-2) to form a single, efficient intersection for general traffic and the Unified Bus System</p>

*Note: The 2013 and 2018 No-Build/No-Action Conditions assume no new facilities; however, activity levels would be higher for both conditions.

1 Refer to Figure 1.4 for the locations of the Program Elements under the 2018 Build Condition.

The traffic analyses included three separate periods for each analysis condition evaluated:

- AM peak hour (7:00-8:00 AM)
- PM peak hour (4:00-5:00 PM)
- Average Weekday Daily Traffic (AWDT)

The morning and evening peak hours represent the highest demand periods within a typical 24-hour period and are the best indicators of ground transportation system capacity constraints. The average weekday daily traffic is a measure of traffic on a typical weekday and was measured and projected primarily for use in the air quality and noise analyses, but is also an indicator of relative changes in the ground transportation system at Logan Airport.

Table 3-2 summarizes the daily traffic for the major components of the SWSA for each of the five analysis periods described in Table 3-1. SWSA traffic is projected to increase in the future, but due to the consolidation of rental car buses the projected traffic volumes entering and leaving the SWSA for the future Build Conditions would be approximately 2 percent less than the traffic volumes associated with No-Build/No-Action Conditions.

Table 3-2
SWSA Daily Traffic Comparison

Land Use	2007 AWDT ¹	No-Build/No-Action ¹		Build ¹	
		2013 AWDT	2018 AWDT	2013 AWDT	2018 AWDT
Rental Car (SWSA) ²	8,420-10,390	8,812-11,377	9,627-12,537	7,818-10,548	8,862-11,962
Rental Car (Off-airport) ^{2,3}	2,000-2,195	1,307-1,472	1,370-1,560	N/A	N/A
Taxi Pool ⁴	10,000-12,000	10,150-12,180	11,370-13,650	N/A	11,370-13,650
Bus and Limousine Pools ⁵	6,000-7,400	6,090-6820	7,510-8,410	N/A	7,510-8,410
Flight Kitchen	750	Relocated to either the North Service Area or off-airport in 2011 (at the end of the lease agreement)			
Long-Term Overflow Commercial Surface Parking (Former USPS Site) ⁶	75-250	75-250	75-250	N/A	155
E. Boston Traffic (Maverick St. Gate) ⁷	<u>3,500</u>	<u>970</u>	<u>1,005</u>	<u>970</u>	<u>1,005</u>
TOTAL SWSA TRAFFIC	25,745-30,590	27,404-33,069	30,957-37,412	8,788-11,518	28,902-35,182

1. Average weekday daily traffic in vehicles per day. Range reflects the variations due to flight schedule and passenger travel patterns during an average week.
2. Includes rental cars, rental car shuttle buses, off-site rental car shuttling, service vehicles, and employee traffic.
3. Included for informational purposes. This rental traffic associated with off-airport companies and does not enter the SWSA. Not applicable since both Thrifty and Enterprise Rental Car companies will be located in SWSA for the Build Conditions.
4. Not applicable in 2013 Build Condition since Taxi Pool will be temporarily located in Lot B.
5. Not applicable in 2013 Build Condition since Bus/Limousine Pool will be temporarily located in NSA.
6. Existing long-term overflow commercial surface parking will be displaced by construction activities from 2011-2015 during Build Conditions.
7. As of May 2008, use of the Maverick Street gate is restricted to East Boston residents. Existing volumes reflect conditions without gate-controlled access while future volumes reflect magnitude of traffic at the gate after installation of new access gates in 2008.

The Secretary's Certificate on the 2009 NPC requested that this Final EIR/EA indicate how Logan Airport air passenger and ground service peak activity periods, such as Sunday afternoon and evening arrival periods,

are accounted for in the traffic analyses. As stated above, the traffic analysis presented in this FEIR focuses on the Thursday morning and evening peak hours as the critical analysis periods. Data indicate that airport-wide traffic is higher on weekdays than on weekend days, and that the highest levels of combined background traffic and SWSA-related traffic occur on Thursdays. Based on this information, the FEIR traffic analysis is based on these high traffic volumes to present a conservative analysis of peak traffic conditions.

Table 3-3 presents data compiled from traffic volumes at the airport gateways. The data indicates that weekday daily traffic volumes are approximately 30 percent higher than weekend daily traffic volumes.

Table 3-3
Logan Airport – Gateway Airport-Related Annual Daily Traffic

Year ¹	AADT ²	AWDT ³	AWEDT ⁴
	<i>vpd</i> ⁵	<i>vpd</i>	<i>vpd</i>
2004	100,206	106,278	84,950
2005	106,000	112,600	89,400
2007	110,690	119,200	91,320

Source: Boston - Logan International Airport 2007 Environmental Data Report

1 2006 data not available due to the closure of the TWT.

2 AADT – Annual Average Daily Traffic

3 AWDT – Average Annual Weekday Daily Traffic

4 AWEDT – Average Annual Weekend Daily Traffic

5 vpd – vehicles per day

Activity levels of rental car transactions were reviewed to determine the highest daily and peak hour periods for the projects' study area. Table 3-4 below summarizes the existing daily variation of the rental car vehicles. The data illustrate that this activity is approximately 14 percent higher on Thursdays than Sundays. Additionally, Appendix D provides a daily summary of 24-hour temporal activity levels for rental cars that illustrates Sunday peak hour activity consistently less than Thursday peak hour activity.

Table 3-4
Day of the Week Activity Rental Car Summary

Day of Week	Rental Transactions (vpd)	Return Transactions (vpd)
Monday	4,376	3,775
Tuesday	3,507	3,311
Wednesday	3,489	3,584
Thursday	3,662	4,264
Friday	3,749	4,135
Saturday	2,990	3,098
Sunday	3,261	3,673

While Sunday evening is historically a peak period for drop-off or pick-up activity at the terminals and within the Terminal areas, the gateway traffic data and the activity data for rental car illustrate that higher levels of overall and site specific traffic occur during the weekday (Thursday) peak hour periods for the Service Road areas of the airport. Based on this comparison, weekday (Thursday) peak hour periods were

selected and are appropriate for analysis of the effect the SWSA Redevelopment Program would have on the study area roadway system.



Existing Conditions

Existing conditions are based on 2007 traffic data and provide a baseline for projection of 2013 and 2018 No-Build/No-Action and Build Conditions.

Existing Access and Circulation

The SWSA is located in close proximity to the airport's terminal area with access to and from the airport roadways and regional highway system as well as to the MBTA's Blue Line Airport Station. Figure 3.2 shows the existing access and circulation conditions in the SWSA.

Harborside Drive is a four-lane airport service roadway situated along the eastern border of the SWSA, separating it from the airport terminal area. Harborside Drive provides direct connections to the terminal area roadways and Interstate 90 (I-90) and Interstate 93 (I-93) via the Ted Williams Tunnel; access to Route 1A and the Sumner/Callahan Tunnels is available from the terminal area roadways. Porter Street and Jeffries Street, both two-lane roadways, are the access and egress points for the SWSA from Harborside Drive. Porter Street becomes a four-lane road near its intersection with Harborside Drive. Two other two-lane roadways, Tomahawk Drive and Wellington Road, complete the internal circulation network of the SWSA. Detailed descriptions of the study area roadways and intersections can be found in Appendix D.

Direct access to the East Boston, Gove Street, and Jeffries Point neighborhoods is limited to the following three locations:

- Porter Street Gate (restricted to pedestrian/bicycle and emergency vehicle access);
- Wellington Road Gate (restricted to pedestrian/bicycle and emergency vehicle access); and
- Maverick Street Gate (restricted to East Boston resident vehicles, pedestrians/bicycles, and emergency vehicle access).

Sidewalks are provided along Harborside Drive, Jeffries Street, and Porter Street with pedestrian crossings provided at each signalized intersection to accommodate pedestrian access and circulation within the SWSA. Access to the Harborwalk is provided along the southeast edge of the SWSA near the Maverick Street Gate. However with sidewalks not available along portions of Tomahawk Drive and Wellington Street, a comprehensive system of pedestrian and bicycle connections or facilities is not currently available within the SWSA.

Traffic Volumes

Data Collection

Historic traffic volume data and past studies and reports were reviewed to gain a thorough understanding of the circulation and traffic associated with all components of the SWSA. An extensive traffic count program was performed in August 2007 that included both automatic traffic recorder counts and manual turning movement counts. Additional counts were performed in December 2007 and February 2008 to supplement the original count program. Count data from permanent loop detectors at the Harborside Drive/Jeffries Street and Harborside Drive/Hotel Drive intersection signal controllers were also used.

Average Daily Traffic Summary

The August traffic volumes were not seasonally adjusted, in order to present a conservative analysis basis. Area traffic data from MassDOT Highway Division and data from key SWSA components (RAC, Taxi Pool) show that traffic in August, while not the peak month of the year, is approximately eight (8) percent higher than average annual conditions. Table 3-5 summarizes the average weekday daily traffic for the major roadways within the study area. Each of these ramps and roadways are shown on Figure 3.2.

Table 3-5
Average Daily Traffic Summary

Location		2007 August AWDT
Ramp T-A/D (Inbound ramp from TWT)		15,750
Ramp E-T (Outbound ramp to TWT)		20,000
Ramp 1A A/D (Inbound ramp from Route 1A and Callahan Tunnel)		32,250
Ramp E-1A (Outbound ramp to Route 1A and Sumner Tunnel)		23,775
Harborside Drive , Between Jeffries Street and Hotel Drive	Total	16,400
	EB	5,900
	WB	10,500
Porter Street , East of Tomahawk Drive	Total	17,100
	EB	10,100
	WB	7,000
Jeffries Street, Between Harborside Drive and Tomahawk Drive	Total	12,700
	NB	5,750
	SB	6,950
Maverick Street Gate, South of Tomahawk Drive (pre card access system)	Total	3,700
	NB	1,550
	SB	2,150
EB – Eastbound	SB – Southbound	AWDT –Average weekday daily traffic in vehicles per day. TWT – Ted Williams Tunnel
WB – Westbound	NB – Northbound	

Turning Movement Counts

Manual turning movement counts were collected in the third week of August 2007 at the majority of the study area intersections. Counts were conducted during the peak periods of 7:00-10:00 AM and 4:00-7:00 PM. Pedestrian crossing movements were also counted during these periods. The raw count data are included in

Appendix D.

The intersection turning movement counts were used to establish traffic networks for 2007 Existing Conditions. From the turning movement counts, the study area's traffic peak hours were determined to be 7:00-8:00 AM and 4:00-5:00 PM. Existing morning and evening peak hour traffic volumes are shown in Figures 3-3 and 3-4, respectively.

Existing SWSA Traffic Components

The SWSA in 2007, as shown in Figure 3.5, was comprised of six rental car operations (Hertz, Avis, National, Alamo, Budget, and Dollar), the Taxi Pool, Bus and Limousine Pools, the long-term overflow commercial surface parking (Lot 3, or old USPS lot), and the Flight Kitchen. At the time of the 2007 traffic counts, Enterprise Rental Car was located off-airport (Enterprise relocated to the SWSA during late 2008). Traffic for each of these operations as well as traffic generated by vehicles accessing the Maverick Street Gate, Embassy Suites Hotel or the residential parking of 156 Porter Street Condominiums utilize the study area roadway network. Table 3-6 below summarizes the estimated existing traffic for the major elements of the SWSA; their operations are described in detail below.

Table 3-6
2007 Existing SWSA Traffic Summary

Land Use	2007 AWDT ¹	2007 Evening Peak Hour Traffic Volumes ²	
		Enter	Exit
Rental Car (SWSA) ³	8,420-10,390	585	393
<i>Rental Cars</i>	5,046-7,016	439	253
<i>Rental Car Shuttle Buses</i>	2,720	82	82
<i>Off-site Rental Car Movements</i>	540	60	45
<i>Employees</i>	100	2	11
<i>Service Vehicles</i>	14	2	2
Rental Car (Off-airport) ^{3,4}	2,000-2,195	92	84
<i>Rental Cars</i>	990-1,185	48	42
<i>Rental Car Shuttle Buses</i>	825	24	24
<i>Off-site Rental Car Movements</i>	150	17	13
<i>Employees</i>	27	1	3
<i>Service Vehicles</i>	8	2	2
Taxi Pool	10,000-12,000	409	350
Bus and Limousine Pools	6,000-7,400	255	192
Flight Kitchen	750	13	26
Commercial Parking (Former USPS Site)	75-250	13	13
E. Boston Traffic (Maverick St. Gate) ⁵	<u>3,500</u>	<u>107</u>	<u>168</u>
TOTAL SWSA TRAFFIC	25,745-30,590	1,382	1,142

¹ Average weekday daily traffic in vehicles per day. Range reflects the variations due to flight schedule and passenger travel patterns during an average week.

- 2 Peak hour traffic reflects an average Thursday evening peak hour in August, with Thursday being the most active traffic day of the week. Morning peak hour traffic is significantly less than the evening peak hour.
- 3 Includes rental cars, rental car shuttle buses, off-site rental car shuttling, service vehicles, and employee traffic.
- 4 Included for informational purposes. This rental traffic is associated with off-airport companies (Thrifty and Enterprise RACs) and does not enter the SWSA.
5. As of May 2008, use of the Maverick Street gate is restricted to East Boston residents. Volumes reflect conditions without gate-controlled access.

Rental Car Operations

The rental car AWDT and peak hour traffic volumes shown in Table 3-6 are a summary of the following five categories of traffic generated by the various rental car operations.

- **Rental Cars** – Rental cars leaving and returning to the SWSA comprise the largest amount of rental car related traffic. Detailed transaction data from each rental car company were obtained for the entire month of August. Based on those data, the six (Hertz, Avis, National, Alamo, Budget, and Dollar) companies located in the SWSA generate approximately 5,000 to 7,000 total rental car trips depending on the day of week. Similarly, the off-airport rental car companies, Thrifty and Enterprise, generate 990 to 1,185 trips depending on the day. In general, Mondays and Thursday are the peak operation days and the least amount of rental/return transactions occur on Saturdays. For analysis purposes, the average Thursday in August was used to establish the peak hour analysis conditions.
- **Rental Car Shuttle Buses** – Each rental car company operates a shuttle bus connecting the terminals with their rental car sites. Based on bus operation data from the rental car companies and field observations and counts, approximately 2,720 rental car shuttles enter and exit the SWSA each weekday. Approximately 825 daily shuttle bus trips occur between the Route 1A locations of Enterprise and Thrifty and the Logan Terminals. (The Unified Bus System Operations section of this chapter contains additional information regarding existing rental car shuttle bus operations.)
- **Off-site rental car movement** – Rental car employees shuttle vehicles that require heavy maintenance or repairs to and from off-airport sites owned and operated by the rental car companies (see Table 3-7 below). Due to the land constraints and lack of storage area within SWSA sites, rental car companies also regularly shuttle returned vehicles directly to their off-site locations for processing, cleaning, and storage. Based on information from the rental car companies, the six existing SWSA car rental companies generate 540 daily off-site car shuttle trips.

Table 3-7
Rental Car Off-Airport Maintenance Locations¹

Company	Off-airport Location
Avis	375 McClellan Highway, East Boston
Budget	175 McClellan Highway, East Boston
Dollar ¹	250 Sumner Street, East Boston
Enterprise ²	121 Eastern Avenue, Chelsea
Hertz	450 McClellan Highway, East Boston
Alamo	235 Marginal Street, Chelsea
National	100 Terminal Street Charlestown
Thrifty ²	38 and 40 Lee Burbank Highway, Revere

1 Main facility located in SWSA unless otherwise noted.

2 Main facility located off-airport

- **Employees** – With limited land area within the SWSA for rental car operations, rental car employees are encouraged to utilize public transportation, car-pool, or be shuttled from off-airport locations. One hundred (100) daily employee vehicle trips were assumed to enter and exit the SWSA for the 2007 Existing Condition analysis.
- **Service Vehicles** – Fuel, garbage, car-carrier, and general service trucks service the rental car companies in the SWSA. Based on information from the rental car companies, each company receives approximately three to four deliveries by each type of service vehicle every week. For analysis purposes, 14 daily service vehicle trips were assumed to enter and exit the SWSA. Fuel, garbage and general service trucks are allowed access to each rental car site. Car-carrier trucks, due to their size, are allowed to park and load/unload vehicles on Wellington Road and Tomahawk Drive.

Taxi Pool

Located in the SWSA south of Porter Street and east of Tomahawk Drive, the Taxi Pool is accessed from both Porter Street and Jeffries Street via Tomahawk Drive and Wellington Road. Upon entering the pool, each Boston taxi pays an access fee (\$2.25) using Automatic Vehicle Identification technology (MassDOT FAST LANE).

Massport Ground Transportation Unit (GTU) personnel at both the Taxi Pool and each terminal's taxi loading area actively manage dispatching of taxis from the pool. Dispatch frequency is based on the flight arrival schedules and is coordinated through flight information displays (FIDs) in the Taxi Pool, and communication between the Taxi Pool and the Terminal curbside GTU attendants.

Available taxi dispatch information was used to develop estimates of Taxi Pool traffic. The Taxi Pool generates the most vehicles of any land use within the SWSA; between 5,000 to 6,000 taxis enter and leave the Taxi Pool each day, depending on the time of year and day of the week. Those numbers do not include suburban taxis, which drop passengers at Logan Airport and leave the airport without passengers (or "deadhead" back to where they originated), because they are not authorized to enter the Taxi Pool.

Bus and Limousine Pools

The Bus and Limousine Pools (aka Bus/Limo Holding Lot) serve as a check-in and layover facility for scheduled buses and limousines and shared van services that are waiting for a scheduled pick-up or reservation. Located in the eastern portion of the SWSA, between Alamo/National Car Rental and the Flight Kitchen, the Bus and Limousine Pools has driveways onto Harborside Drive and Tomahawk Drive. The Bus and Limousine Pools accommodate approximately 6,000 to 7,400 buses and limousines each weekday.

Massport GTU personnel staff the Bus and Limousine Pools to process the required limousine fees and provide real-time arrival flight information to drivers to minimize the wait time of limousines and shared vans at the terminal curbsides.

Flight Kitchen

The Flight Kitchen is located in the eastern end of the SWSA and is accessed from Tomahawk Drive via Jeffries Street. The facility generates approximately 750 trips per day. The majority are truck trips containing incoming food and container deliveries from off-airport, and outgoing prepared food deliveries to the North and South Service Areas.

Long-term Commercial Parking

The former USPS building site is currently used as a 420-space long-term overflow surface parking (Lot 3). The lot is opened during periods of high parking demand and operated by Logan Ground Transportation personnel using mobile revenue collection. Access to and from the terminals is provided by the existing Massport Water Shuttle route, which is diverted to the SWSA when the lot is active. As an overflow lot, the lot experiences access and egress activity consistent with the long-term parking statistics of the Economy Lot. It was determined through examination of entry and exit counts and corresponding space occupancy, that the average parking duration is approximately three days. Based on these data, fully utilized, the lot would generate 275 total daily vehicle trips.

Local Traffic

The areas surrounding the Porter Street and Maverick Street Gates contribute to the remaining traffic in the SWSA:

- **Embassy Suites Hotel** – Located adjacent to the Porter Street Gate, the Embassy Suites Hotel provides 273 rooms and a courtesy shuttle for guests to the Terminals.
- **156 Porter Street** Condominiums – Access to the driveway to this residential building containing 217 loft condominiums is located adjacent to the Porter Street.
- **East Boston traffic** (via Maverick Street Gate) – Gate-controlled vehicle access between the SWSA and East Boston is provided through the Maverick Street Gate. East Boston residents owning a non-commercial, personal passenger vehicle are granted access through an electronic gate on a 24/7 basis by using a smart key card access system. The key card system went into effect in May 2008. Previously, the Maverick Street Gate processed 3,500 vehicles per day on average. Initial data from the key card access system indicate that the enforcement of access control at the gate has reduced the amount of traffic using the Maverick Street Gate by 70 percent.

Vehicular Accident History

To identify accident trends in the study area, accident data for the study-area intersections were obtained from the MassDOT for the most recent three-year period available (2004-2006). The study area intersections where vehicle accidents were reported are summarized in Table D-1, located in the Appendix D.

The off-airport intersections of Route 1A at Boardman Street and Bennington Street at Neptune Road had 14 and 15 accidents reported between 2004 and 2006, respectively. Considering the high volume of traffic (over 4,000 and 1,900 vehicles in the peak hour respectively) that both intersections process, the 14 and 15 accidents do not constitute a safety problem. The remaining study area intersections cannot be categorized as high accident locations with each averaging less than two accidents per year. None of the intersections in the study area experienced any recorded fatalities between 2004 and 2006.

Existing Public Transportation, Pedestrian and Bicycle Facilities

The Massachusetts Bay Transit Authority (MBTA) provides direct connections to Logan Airport via rapid transit (Blue Line subway at the Airport Station and Silver Line bus at each of the terminals) as well as North

Shore commuter bus service to South Station that includes a stop at Terminal C. The MBTA operates local bus service on Maverick Street at Jeffries Point and two early morning daily trips from Dudley Square and Andrew Square.

Massport provides frequent, scheduled express bus service (Logan Express) to Logan Airport from Braintree, Peabody, Framingham, and Woburn. Full-service bus terminals and secure parking are provided at all four express bus locations.

Water transportation to/from the Logan Airport Dock is provided by four services: City Water Taxi, Rowes Wharf Water Shuttle, MBTA Harbor Express, and Boston Harbor Water Taxi. Together, these companies served numerous destinations throughout Boston Inner Harbor; the water taxi landings include: Long, Rowes, and Central Wharfs, the World Trade Center, and the Moakley Courthouse in South Boston; Lovejoy Wharf near North Station; and stops in the North End, Charlestown, Chelsea, and East Boston. The MBTA service carries passengers to the South Shore, including routes to Quincy and Hull.

Massport provides a courtesy, compressed natural gas (CNG)-powered bus service between the Logan Airport water dock and the MBTA's Airport Station and all airport terminals. Massport Shuttle #22 and #33 provide transit connection from Airport Station to each airport terminal while Massport Shuttle #66 connects Airport Station and the Logan Airport water dock with each terminal. Figure 3.6 shows the public transit connections available at Logan Airport.

There are sidewalks along the roads in the SWSA, as well as crosswalks at signalized intersections. However, there are limited pedestrian and no bicycle facilities currently in the SWSA. Massport has made substantial progress in providing pedestrian access airport-wide. There are sidewalks along Harborside Drive and Hotel Drive that connect to the terminals, where a series of overhead walkways connect the Central Garage to Terminals A, B, C and E as well as to the Hilton Hotel. The sidewalks along Harborside Drive and Maverick Street and the Harborwalk (a "mixed use" path used for walking, jogging, and biking) facilitate pedestrian access to the Logan Airport Dock, Airport MBTA Station, and to the pedestrian and bicycle amenities at the Memorial Stadium Park, Bremen Street Park, and the East Boston Greenway. Pedestrian access was improved through the Maverick Street Gate (constructed in fall 2007). Bicycle racks are provided at Terminal A, the Logan Office Center, the Central Garage, and at the MBTA's Airport Station.

Transportation Management Association

The Logan Employee Transportation Management Association (TMA) is a non-profit coalition of airport businesses dedicated to reducing traffic congestion and pollution by organizing/supporting alternatives to drive-alone commuting. It encourages employees to use public transportation and other shared-ride options. To help accomplish these objectives, Massport created the Logan TMA in 1997 and supports it with an annual contribution of \$65,000, as well as with space and equipment for the Logan TMA Transportation Office in Terminal C.

The Logan Employee Transportation Management Association operates the Sunrise Shuttle between East Boston and the Logan terminals. The shuttle route passes through the SWSA. The service operates between 3:00 AM and 6:00 AM, providing vital transportation services before MBTA services begin at 5:00 AM.

The Logan TMA advises employers on transit benefits and provides information on available commuting transportation alternatives, ride-matching services, and reduced-rate high occupancy vehicle (HOV)/transit fare options. The TMA also provides a forum for Logan Airport tenants and employees to address common transportation concerns, and works with government entities and employers to create coordinated transportation management programs.

The Logan TMA actively encourages airlines, rental car companies, contract cargo transport companies, and other tenants at Logan Airport to join the Logan TMA as a means to offer commuting incentives to their employees and to help to reduce traffic growth and parking demands at the airport. To encourage membership, the Logan TMA instituted individual membership for employees whose companies are not corporate members. Currently, none of the rental car companies are TMA members.



Future Traffic Conditions

Two analysis conditions are evaluated for a future 6-year horizon (2013), which corresponds with the estimated date of beneficial occupancy (DBO) of SWSA Redevelopment Program and opening of the Garage Structure and CSC building. A future 11-year horizon (2018) that relates to a 5-year planning horizon from the DBO was also evaluated.

- The 2013 and 2018 No-Build/No-Action Conditions include, background traffic growth associated with airport passenger projections, other planned development projects, any planned changes to the SWSA, and any planned infrastructure improvements.
- The 2013 and 2018 Build Conditions assume the same background traffic growth, but with the planned changes to the SWSA and any access and circulation improvements required to directly support the SWSA Redevelopment Program.

No-Build/No-Action Traffic Volume Conditions

The purpose of the No-Build/No-Action Conditions analysis is to create a future comparative basis for the Build Conditions improvement options and provide an estimate of operations if no improvements beyond what is currently planned are made to the SWSA.

Proposed No-Build/No-Action Area/Airport-wide Transportation Improvements

Review of the Boston Metropolitan Planning Organization's Transportation Improvement Program (TIP) and Regional Transportation Plan (RTP) indicates that there are no significant roadway or intersection improvements programmed for the study area by 2013 or 2018. The RTP includes the East Boston Haul Road/ Chelsea Truck Route and long-term planning includes the potential grade separation of the Route 1A and Boardman Street intersection.

However, four transportation-related projects are planned by Massport that could influence the study area:

- **Bus Maintenance Facility** – Permitting and preliminary design is underway for a bus maintenance facility that would include an administrative and maintenance building, wash building, clean fuel operation and some employee parking. The facility would serve as a staging and service area for the Massport bus fleet. The facility will be located in the NSA and accessed from Lovell Street. The preliminary construction schedule for the project estimates a completion date in late 2012. Bus Maintenance Facility traffic volumes were included in the 2013 and 2018 Future Conditions traffic volumes. Trip generation for the facility was estimated based on existing Massport shuttle schedules, the proposed Unified Bus System schedule and projected employee vehicles.
- **East Boston Haul Route /Chelsea Haul Road-** The Boston Metropolitan Planning Organization's Regional Transportation Plan (RTP) includes the proposed East Boston Haul Road/Chelsea Truck Route project as part of the RTP 2015 analysis condition. This route would intersect Frankfort Street at Lovell Street and is a key component of the regional Urban Ring Phase 2 project. Based on the estimated development timeline, the East Boston Haul Road/Chelsea Truck Route was assumed to be operational for the 2018 Future Conditions, but not 2013 Future Conditions. Traffic associated with the East Boston Haul Road/Chelsea Truck Route was estimated based on the Massport shuttle routing and headway data and existing Frankfort Street and Neptune Road truck volumes. Due to the uncertainty of the Urban Ring Phase 2 project, no Urban Ring bus traffic was included in the 2013 or 2018 Future Conditions. Proposed improvements at the Frankfort Street/Lovell Road, discussed in the Beneficial Measures section of this chapter, will be designed to accommodate future integration of the East Boston Haul Road/ Chelsea Truck Route.
- **Economy Parking Deck** – Massport is considering the construction of an interim 1,000-space parking deck over the existing economy parking surface lot at the intersection of SR-2 and Prescott Street in the North Cargo Area (also known as the "Robie Parcel" – a site reserved for future aviation activity for the long-term) to be complete by late 2010. This project would not create any additional commercial parking spaces under the Logan Airport Parking Freeze; rather it would relocate and consolidate existing on-airport parking capacity. With vehicle trips for this location not being new trips to the airport and the long-term nature of economy parking limiting the amount of trip generation for this location, the impact of new trips from the proposed deck was assumed to be minimal within the SWSA Redevelopment Program study area. Refer to Appendix D for further detailed information in Massport's February 1, 2010 Request for Advisory Opinion letter.
- **Logan Airport Comprehensive Wayfinding System** – Massport is implementing a comprehensive wayfinding system for Logan facilities including terminals, terminal curbside, parking garages and approach roadways. The proposed program could include airport-wide signage analysis and planning, development of design guidelines and graphic standards, and a master implementation plan for future projects.

Background Traffic Growth

Traffic growth within the study area can be separated into two categories:

- Growth of airport-related services, such as taxis and rental cars, which are directly related to projected airport passenger growth.
- Traffic growth associated with specific development projects in the area or general traffic growth associated with regional growth or redevelopment.

Airport-related Growth

Many of the components of the SWSA are directly related to Logan Airport air passenger levels. Rental car, taxi, and limousine activity levels would fluctuate based on the number of air passengers. The growth rate and the magnitude of any airport-wide passenger increase is not directly influenced by the proposed physical elements of the SWSA Redevelopment Program.

In 2007, Logan Airport handled 28.1 million air passengers and Massport was anticipating that air passengers would grow at a rate of 2.3 percent per year. Since the filing of the 2008 Draft EIR/EA, two changes have occurred that alter the future growth projections used to estimate future traffic volumes for this report. Following 2007, Logan Airport experienced a reduction in passenger levels, likely associated with the economic downturn. Examination of air passenger enplanements and rental car transactions after 2007 indicates that passenger levels have dropped by approximately 11.5 percent. Passenger forecasts for the FEIR were therefore lowered to account for the anticipated near term reduction in air passengers.

The growth projections assumes that by 2013, air passengers would be approximately 1.5 percent higher than 2007 levels. It is assumed that the air passenger recovery would continue with 2.3 percent annual increases between 2013 and 2018. Recent passenger statistics and short-term passenger projections support this assumption and the magnitude of taxi, rental car, and limousine traffic entering and exiting the SWSA is projected to increase consistently with air passenger forecasts. After adjusting for the recent decline in air passenger traffic, the net increase in air passenger traffic from 2007 levels is assumed to be 1.5 percent by 2013 and 15.1 percent by 2018.

General Background Growth

No significant development-related traffic was assumed to influence the study area in either 2013 or 2018.

Historical traffic count data were reviewed for East Boston and Route 1A, including the MassDOT Highway Division's continuous count station on Route 1A at the Revere city line. These locations showed either no growth or a reduction in traffic between 1999 and 2006. To present a conservative analysis, an annual 0.5 percent background growth rate was used to adjust non-air passenger 2007 traffic volumes to 2013 and 2018 No-Build/No-Action traffic volume conditions.

Based on knowledge of existing trips and travel patterns, the SWSA-related traffic (Taxi Pool, Bus and Limousine Pools, rental car traffic, and rental car shuttle bus) were removed from the 2007 Existing Condition traffic volumes in order to better understand the non-rental car and ground transportation activities of the SWSA. The residual traffic remaining on the roadway network, predominately associated with the Embassy Suites and Maverick Street gate, was projected out to the future planning horizons using the 0.5 percent per year background traffic growth rate.

Table 3-8 below summarizes the projected 2013 and 2018 No-Build/No-Action AWDT and peak hour traffic volumes for the SWSA.

Table 3-8
No-Build/No-Action SWSA Traffic Summary

Land Use	2013 AWDT ¹	2013 Peak Hour Traffic Volumes ²		2018 AWDT ¹	2018 Peak Hour Traffic Volumes ²	
		Enter	Exit		Enter	Exit
Rental Car (SWSA) ³	8,812-11,377	624	425	9,627-12,537	721	491
<i>Rental Cars</i>	5,360-7,925	473	281	6,075-8,985	560	339
<i>Rental Car Shuttle Buses</i>	2,640	79	79	2,640	79	79
<i>Off-site Rental Car Movements</i>	680	67	51	780	77	59
<i>Employees</i>	100	2	11	100	2	11
<i>Service Vehicles</i>	32	3	3	32	3	3
Rental Car (Off-airport) ^{3,4}	1,307-1,472	58	53	1,370-1,560	62	57
<i>Rental Cars</i>	350-515	21	19	395-585	25	23
<i>Rental Car Shuttle Buses</i>	824	24	24	824	24	24
<i>Off-site Rental Car Movements</i>	115	11	8	133	11	8
<i>Employees</i>	14	1	1	14	1	1
<i>Service Vehicles</i>	4	1	1	4	1	1
Taxi Pool	10,150-12,180	415	413	11,370-13,650	472	468
Bus and Limousine Pools	6,090-6820	258	194	7,510-8,410	295	221
Flight Kitchen	Relocated to either the North Service Area or off-airport in 2011 (at the end of the lease agreement)					
Commercial Parking (Former USPS Site)	75-250	13	13	75-250	15	15
E. Boston Traffic (Maverick St. Gate) ⁵	970	39	17	1,005	40	18
TOTAL SWSA TRAFFIC	27,404-33,069	1,407	1,115	30,957-37,412	1,605	1,270

- 1 Average weekday daily traffic in vehicles per day. Range reflects the variations due to flight schedule and passenger travel patterns during an average week.
2 Peak hour traffic reflects an average Thursday evening peak hour in August, with Thursday being the most active traffic day of the week.
3 Includes rental cars, rental car buses, off-site rental car shuttling and employee traffic.
4 Included for informational purposes. This rental traffic associated with off-airport companies and does not enter the SWSA.
5 Reflects magnitude of traffic at the gate after installation of new access gates in 2008.

No-Build/No-Action SWSA Traffic Components

Several actions related to the SWSA land uses would have an impact on the No-Build/No-Action traffic conditions.

- Enterprise Rental Car moved its operation into the SWSA from its Route 1A/McClellan Highway location in East Boston in 2008. To facilitate that move, the following activities will shift within the SWSA:
 - Alamo Rental Car relocated within an expanded National Car Rental site in SWSA. The agencies will share administrative and QTA space and operate one combined rental car shuttle bus operation.
 - The Bus and Limousine Pools will be slightly reduced.
 - Enterprise Rental Car relocated to a portion of the former Alamo Rental Car site.

- In 2006, the Flight Kitchen made a decision to move its facilities to either the vacant flight kitchen facility in the NSA or off-airport in order to satisfy its business needs. This move is scheduled for 2011 (at the end of the least agreement). To present a conservative analysis condition, the move of the Flight Kitchen to the NSA has been analyzed as part of the background conditions.
- Advantage Rental Car has plans to enter the Logan Airport market after its recent purchase by Hertz Rental Car. It is assumed for 2013 and 2018 No-Build/No-Action Conditions that Advantage Rental Car will be operating from the off-airport Hertz site located at 450 McClellan Highway in East Boston. A dedicated Advantage shuttle bus was assumed to be operating between this location and the Terminals.

Rental Car

The rental car AWDT and peak hour traffic volumes shown in Table 3-8 above are a summary of the following five categories of rental car-related traffic.

- **Rental Cars** – With the inclusion of Enterprise Rental Car on the SWSA and the projected growth in customer transactions, SWSA rental car return and rental traffic is anticipated to increase by approximately 13 percent by 2013 and 28 percent by 2018. In 2013, the SWSA would generate 5,360 to 7,925 total rental car trips depending on the day of the week. By 2018, the SWSA would generate 6,075 to 8,985 rental car trips depending on the day of the week. Off-airport, Thrifty and Advantage's total daily rental car return and rental traffic is projected to be between 350 and 515 trips in 2013 and between 395 and 585 in 2018.
- **Rental Car Shuttle Buses** –The rental car companies' existing shuttle bus operations are customer service based with a service goal of not allowing customers a long wait time at either the terminal curbside or the rental car area. This operation results in frequent shuttle bus service and excess passenger capacity in the buses. Comparison of that excess capacity with the projected future passenger growth indicates that current rental car shuttle bus operations would not need to be increased to meet future demand. With Alamo combining bus operations with National, and Enterprise relocating to the SWSA, the number of buses entering and exiting would reduce slightly from the existing 2,720 rental car shuttle trips to 2,640 rental car shuttle trips for future 2013/2018 No-Build/No-Action Conditions. Off airport, the addition of an Advantage shuttle bus along with Thrifty's shuttle would generate approximately 824 rental car shuttles trips per day.
- **Off-site rental car operations** – With the projected increased number of rental transactions and space constraints of the SWSA limiting rental car operation expansion, the amount of car rental movement to supplemental maintenance and storage locations is expected to increase disproportional to the growth in air passenger activity. Information from the rental car companies indicates that off-site rental car movements associated with the seven SWSA companies are expected to increase 26 percent from 2007 Existing Conditions to approximately 680 daily off-site car movements in 2013. By 2018, approximately 780 daily off-site car movements are anticipated to travel to and from the SWSA, a 44 percent increase from 2007 Existing Conditions.

- **Employees** – Increased No-Build/No-Action Condition rental car transactions combined with limited space for each rental car company on the SWSA will further restrict the amount of rental car employee parking that could be provided. For analysis purposes, the same 100 daily employee trips from 2007 Existing Conditions were used for the No-Build/No-Action Conditions analyses.
- **Service Vehicles** – To cover the addition of Enterprise Rental Car company and growth that corresponds with the anticipated rental car transaction growth, approximately 32 daily service vehicle trips were assumed for 2013 and 2018 No-Build/No-Action Conditions.

Taxi Pool

As a result of new access and revenue control upgrades implemented for the Taxi Pool in 2008, the current Taxi Pool can accommodate the growth in taxi usage anticipated during the 2013-2018 planning horizon. For the 2013 and 2018 No-Build/No-Action Conditions, taxis would enter and exit the pool at increased rates with shorter wait times within the pool. Total daily traffic for the Taxi Pool is projected to increase to between 10,150 and 12,180 trips for the 2013 No-Build/No-Action Condition and 11,370 and 13,650 trips for 2018 No-Build/No-Action Condition.

Bus and Limousine Pools

It is assumed that limousine and shared van traffic growth would increase in line with air passenger growth. Based on Massport ridership information, buses were projected to have the seat capacity to meet the increased ridership consistent with air passenger growth without adding additional buses. Therefore, it was assumed that there is no increase in bus trips for the analysis.

Flight Kitchen

The Flight Kitchen is anticipated to be relocated to a site in the North Service Area or off-airport by 2011. With established delivery routes and schedules, trips associated with the Flight Kitchen were assumed to grow at the lesser 0.5 percent per year growth rate for this analysis. These projected trips of the Flight Kitchen were assigned to logical routes to and from the North Service Area.

Commercial Parking (Lot 3, also known as the Old United States Postal Service Lot)

Because the 2007 Existing Condition analysis assumed this lot was fully utilized for the analysis time period, no growth in traffic was assumed for future No-Build/No-Action conditions when compared to 2007 Existing Conditions.

Local Traffic

With the installation of upgraded access card and control gate improvements at the Maverick Street Gate, traffic volume data indicates that use of the gate has declined by over 70 percent, from 3,500 vehicles per day (vpd) in August 2007 to 945 vpd in August 2008. Therefore, the 2013 and 2018 Conditions reflect the lower Maverick Street Gate traffic volumes. This local traffic volume, as well as traffic associated with the Embassy Suites Hotel and 156 Porter Street, were increased using the assumed background traffic growth factor of 0.5 percent per year to 2013 and 2018 No-Build/No-Action volumes.

No-Build/No-Action Traffic Assignment

Traffic patterns to and from the airport vary slightly depending on the user, but generally follow the distribution pattern shown on Figure 3-7. Review of traffic volume data and origin-destination information from the 2007 Logan Airport Air Passenger Survey were used to determine the geographic distribution. The three major vehicle gateways to Logan Airport are the Ted Williams Tunnel (48 percent), Sumner/Callahan Tunnels (34 percent) and Route 1A (18 percent). A much smaller percentage of traffic accesses the airport from Neptune Road/Frankfort Street and the Maverick Street Gate.

The projected No-Build/No-Action traffic volumes were assigned to the study area roadway network according to existing travel patterns, with one exception. First, the Flight Kitchen traffic was removed from the SWSA and reassigned to logical routes to and from the North Service Area. The resulting No-Build/No-Action traffic volume conditions are summarized in Figures 3-8 through 3-11. Details regarding the reassignment of the Flight Kitchen is provided in Appendix D.

Future Build Traffic Conditions

The SWSA Redevelopment Program will consist of 2,500 rental car spaces and 620 storage parking spaces, located on the fourth level, within the proposed 4-level Garage Structure (Figure 1.4). The four QTA facilities will provide an additional 1,250 storage spaces total for the rental car companies. The Bus and Limousine Pools would be relocated back to the SWSA, just east of Jeffries Street. The Program will relocate the Taxi Pool north of Porter Street to the site currently occupied by Avis Rental Car. Approximately 233 commercial parking spaces will be relocated back to the SWSA in a surface lot located east of Jeffries Street and the Bus and Limousine Pools. This surface lot would serve as an overflow economy parking lot, similar to the existing Old U.S. Postal Service lot (Lot 3) in the SWSA.

While the 2018 Build Conditions reflects completion of the complete program described above and illustrated in Figure 1.4, certain elements of the Program would not be in place during the 2013 Interim Build Condition. The 2013 Interim Build Condition reflects the DBO condition of the SWSA Redevelopment Program, which includes the following:

- Completion and occupancy of the Garage Structure by all rental car companies;
- Completion and use of QTA's 1 and 2;
- Construction of QTA's 3 and 4;
- Continued use of Dollar Rental Car's existing QTA area;
- Use of Avis Rental Car QTA area by Thrifty Rental Car;
- Continued use of Alamo/National/Enterprise interim QTA, located east of Jeffries Street;
- Operation of Bus and Limousine Pools in NSA still in effect; and
- Operation of Taxi Pool in Lot B still in effect.

Traffic volume projections and circulation details for both the 2013 Interim Build and 2018 Build Conditions are discussed below.

Proposed Build Area/Airport-Wide Transportation Improvements

The location of the Garage Structure and QTA areas in the SWSA Redevelopment Program will require an improved traffic circulation pattern that segregates the access routes of the two largest SWSA traffic generators (Taxi Pool and rental cars) to minimize vehicular conflict points.

As illustrated on the Proposed Car Rental Operations plan (Figure 3.12), primary access to the Garage Structure and Maverick Street Gate would be provided by the new extension of Tomahawk Drive. Jeffries Street would provide primary egress for the Garage Structure (and Maverick Street Gate traffic) as a widened, one-way northbound roadway. A small (less than 10 percent) amount of rental car exits would be permitted via a secondary exit driveway onto Porter Street. Porter Street would be reconstructed to provide access and egress for the Taxi Pool, Embassy Suites, 156 Porter Street, and the western QTA areas.

The following improvements are assumed to be in place for the 2013/2018 Build Conditions analysis:

Bus Ramp Connection

The proposed Unified Bus System would access the SWSA via SR-14. Direct access for the Arrival level buses to the CSC building is provided by a new elevated ramp connecting SR-14 to the second floor of the CSC building where arriving passengers are dropped off at the Garage Structure. These buses descend to the ground floor of the CSC building via a proposed ramp and merge with buses serving the ground floor of the CSC building and the Departure level of the Terminals. A dedicated left-turn lane on Jeffries Street would provide access to Harborside Drive from the SWSA for the buses. From Harborside Drive, approximately half of the buses would use Ramp S-A to access the Arrivals level and the remaining buses would use the proposed new Ramp S-D to access the Departures level roadways. Figures 3.13 and 3.14 illustrate the layout of the proposed bus ramps.

New Surface to Terminals Ramp S-D Connection:

The proposed Ramp S-D would connect the SWSA directly to Ramp 1A-D and the departure level of the Terminal Area roadways. The ramp would be constructed as the outbound lane of the northern leg to the Harborside Drive/Porter Street intersection. The ramp would pass under the elevated u-turn roadways and then climb and merge with Ramp 1A-D. The proposed ramp allows the Unified Bus System's buses to quickly access the departure level to drop-off departing passengers at the terminals. The ramp would reduce approximately 240 seconds (4 minutes) of travel time and 1 mile of distance from the required route of each shuttle buses, resulting in substantial operational and environmental benefits.

Harborside Drive Roadway and Intersection Improvements

The proposed improvements to Harborside Drive are focused mainly at the three signalized intersections adjacent to the SWSA. Figures 3.13 and 3.14 present the conceptual design improvements for Harborside Drive.

Harborside Drive/Porter Street/SR-14/Ramp 1A-S

The northbound Harborside Drive approach to the intersection would be reconstructed to provide two 250-foot long left-turn lanes and a through/right-turn lane. Three southbound travel lanes would be provided to Jeffries Street. The Porter Street approach would provide a left-turn/through lane, an exclusive through lane and an exclusive right-turn lane. SR-14 and Ramp 1A-D would be combined to form the southbound approach to the intersection. The approach would provide a left/through lane, an exclusive through lane and a through/right-turn lane. The new Ramp 1A-D alignment would necessitate the closure of the northbound direction of SR-14. The westbound approach would be reconstructed to serve as the exit driveway (SR-4) from the toll facility building.

The traffic signal system would be reconstructed to provide adequate vehicular and pedestrian traffic controls. The intersection would operate with four phases: separate, split phases for the northbound and southbound approaches, a combined phase for the eastbound and westbound approaches, and an exclusive pedestrian phase.

Harborside Drive/Jeffries Street

The northbound Jeffries Street approach to the intersection would be reconstructed as a one-way roadway providing a left-turn lane, an exclusive through lane, and a through/right-turn lane. An additional left-turn lane would be provided for common shuttle buses exiting the bus loop area. The Harborside Drive westbound approach would provide an exclusive through lane and a right-turn/through lane. The Harborside Drive eastbound approach would provide an exclusive left-turn lane with 150 feet of storage, and two exclusive through lanes.

The traffic signal system would be reconstructed to provide adequate vehicular and pedestrian traffic controls. The intersection would operate with four phases: a lead eastbound left-turn phase, a combined eastbound and westbound phase, a northbound left-turn phase, and a northbound bus left-turn phase (northbound through and right-turns will operate concurrent with both northbound left-turn phases). Pedestrian crossings would operate concurrently with the proposed phasing.

Harborside Drive/Hotel Drive/Tomahawk Drive

The intersection would be modified to accommodate the extension of Tomahawk Drive as a one-way, receiving leg of the intersection. The eastbound Harborside Drive approach would be widened to provide an exclusive left-turn lane, an exclusive through lane, and a through/right-turn lane. The Hotel Drive approach would also be widened to provide an exclusive, right-turn lane, a through lane and a left-turn/through lane.

The traffic signal system would be reconstructed as required to provide adequate vehicular and pedestrian traffic controls. The intersection would operate with four phases: a lead eastbound left-turn phase, a combined eastbound and westbound phase, a southbound phase, and an exclusive pedestrian phase.

Tomahawk Drive/Maverick Street Gate Reconstruction

Tomahawk Drive would provide primary access to the Maverick Street Gate and the ConRAC/SWSA garage. The roadway would provide two westbound lanes from Harborside Drive to Jeffries Street. From Jeffries Street to the Garage Structure entry and exit ramps, Tomahawk Drive would be two lanes in each direction separated by a median. The one-way alignments of Tomahawk Drive and Jeffries Street allow the creation of

a free-flow intersection of the roadways. Primary service access to the ConRAC will be provided via the western Service Road, accessible from both Porter Street and Tomahawk Drive

The location of the Maverick Street Gate's access controls/gate into East Boston would need to be modified to function with a one-way Tomahawk Drive. If the existing gate location at the edge of the SWSA property were to remain, more than one vehicle arriving at the access control gate would create a potentially unsafe queue onto Tomahawk Drive. A potential short left-turn lane on Tomahawk Drive (not shown in Figure 3.14) would allow queuing vehicles to be removed from the main Tomahawk Drive traffic flow. The feasibility of providing this improvement will be evaluated as part of the SWSA site design effort.

Porter Street Reconstruction

Porter Street would be reconstructed as part of the Harborside Drive intersection improvements but also to provide the proposed access and egress for the new Taxi Pool locations (See Figure 3.15). Porter Street westbound would be two-lanes for approximately 400 feet when the outside lane becomes an exclusive taxi entrance lane for the Taxi Pool. A median island would be constructed at the western end of Porter Street to force taxis exiting the pool to perform a right-turn and a u-turn movement at the Porter Street/Service Road intersection to return to Harborside Drive. The design avoids an awkward unsignalized intersection where the majority of traffic is forced to stop.

As part of the Taxi Pool relocation, Massport plans to provide a priority lane for taxis participating in the City of Boston's Clean Cab Initiative. This lane would provide shorter Taxi Pool wait times for taxis that meet the low-emission requirements of the initiative.

Hotel Drive Intersection Improvements

The proposed roadway improvement shown in Figure 3.16 would simplify the intersections of Hotel Drive with Ramp D-S and SR-2 by creating a single signalized intersection. This consolidated intersection would create a more efficient roadway network for the automobiles and buses simplify airport wayfinding signs and provide the necessary land area and possibly relocate the Cell Phone Lot back to Lot B. The Cell Phone Lot requires relocation from Lot B due to the temporary relocation of the Taxi pool to Lot B during construction.

The Hotel Drive and Ramp D-S intersection would be modified to accommodate a realigned SR-2 as both the eastbound and southbound approaches of the intersection. The eastbound SR-2 approach would provide a left-turn lane and a right-turn lane while the southbound SR-2 approach would provide a through/right-turn lane and a through lane. The westbound Ramp D-S approach would be widened and slightly realigned to provide an exclusive left-turn lane and a through/right-turn lane. The northbound Hotel Drive approach would also be restriped to provide an exclusive, left-turn lane and a through lane.

The new traffic signal system would be required to provide adequate vehicular and pedestrian traffic controls. The intersection would operate with four phases: a lead northbound left-turn phase, a combined northbound and southbound phase, a lead westbound left-turn phase and a combined eastbound and westbound phase. Pedestrian crossings would operate concurrently with the proposed phasing.

Airport Station Improvements

With SR-14 being converted to one-way southbound due to modifications to Ramp 1A-S (as described above), modifications to the northern end of SR-14 are proposed as part of the Unified Bus System. As shown in

Figure 3.17, SR-14 will be reconstructed as one-way southbound with a new sidewalk area to be used with bus berths for the Unified Bus System routes from the Arrivals Level of the terminals. Passengers would disembark from the buses and cross the existing Airport Station access lane to enter the station. Pedestrian crossing warning lights and signs would be installed at these crossing locations.

Interim Build Improvements

Two improvements are required to mitigate impacts from the temporary relocation of the Taxi, Bus and Limousine Pools during construction. The following improvements are assumed to be in place during the entire 2011-2015 construction period, which includes the 2013 Interim Build Condition:

Harborside Drive / Hyatt Drive Intersection Improvements

Relocation of the Taxi Pool to Lot B requires all taxis to egress the pool via Hyatt Drive. Absent improvements, this increase in traffic on the Hyatt Drive approach to Harborside Drive is projected to result in long delays and queues that would affect customers of the Hyatt Hotel and the Water Taxi service. Figure 3.18 illustrates the temporary location of the Taxi Pool and the proposed traffic signal system at the Harborside Drive and Hyatt Drive intersection.

The proposed configuration of the Harborside Drive and Hyatt Drive intersection is as a “T-type” intersection with two lanes provided for each approach. The Harborside Drive approaches will each provide two general-purpose travel lanes while the Hyatt Drive approach will provide an exclusive left-turn lane and a left/right-turn lane. The intersection will be controlled by a two-phase traffic signal. The first phase will be for the Harborside Drive approaches. The second phase will permit the northbound Hyatt Drive movements. Crosswalks are proposed at the northbound and eastbound approaches of the intersection. Pedestrian crossings would operate concurrently with the proposed phasing.

In addition to the traffic signal, a proposed queue management system for taxi egress from the Taxi Pool is proposed which is intended to prevent or minimize the potential of taxis blocking the Hyatt Hotel access driveway. A control system is proposed at the taxi pool exit drive, which would be interconnected to the traffic signal at the Harborside Drive and Hyatt Drive intersection. The number of taxis released from the pool would be metered based on the signal timing to avoid queuing taxis through the Hyatt Drive intersection.

Frankfort Street and Lovell Street Intersection Improvements

With Lovell Street as the only access to the NSA, the temporary relocation of the Bus and Limousine Pools to the NSA would degrade operations at the existing unsignalized intersection of Frankfort Street and Lovell Street. Figure 3.19 illustrates the proposed signal system and pedestrian improvements at the Frankfort Street/Lovell Street required to mitigate temporary impacts during construction. These improvements would remain in place after the Bus and Limousine Pools are relocated back to the SWSA. The proposed intersection improvements would include new pedestrian ramps at each corner, crosswalks, pedestrian signals and sidewalk connection to the Bremen Street Park entrance. These improvements position the proposed signalized intersection as vital node within the planned East Boston Greenway enabling pedestrians and bicyclists to safely cross Frankfort Street. The improvements are consistent with long-range regional and transportation plans that contain the Frankfort Street/Lovell Street intersection as a key transportation node, including the East Boston Haul Road/Chelsea Truck Route and the proposed Urban Ring, both of which

anticipate a traffic signal at this location. As well, the proposed Massport Bus Maintenance Facility will be accessed through this intersection.

As shown in Figure 3.18, the proposed configuration of the Frankfort Street and Lovell Street intersection is as a four-way intersection with single lanes provided for the Frankfort Street southbound, Lovell Street westbound and a maintenance driveway eastbound approaches. Due to the high volume of northbound right turn traffic, the Frankfort Street approach will be widened to provide a combined left/through lane and an exclusive right-turn lane. In the future, the maintenance driveway will be reconfigured as the southern terminus of the East Boston Haul Road. At that time, the eastbound approach will be reconstructed as the Haul Road and the northbound Frankfort Street approach can be reconfigured to provide an exclusive left-turn lane and a through/right lane in order to accommodate haul route traffic.

The intersection will be controlled by a three-phase traffic signal. The first phase will be for the Frankfort Street approaches. The second phase will permit the Lovell Street and the maintenance driveway approaches. The third phase will be an exclusive pedestrian phase upon push button activation. Crosswalks are proposed at all southbound and westbound approaches of the intersection and are key to providing connections to the Bremen Street Park pathway.

A large portion of the Frankfort Street and Lovell Street intersection is located within State Highway layout and will require a State Traffic Signal Permit. Massport has been coordinating the intersection and signal design with the Massachusetts Highway Department.

Background Traffic Growth

Background growth generation and projections for 2013 and 2018 Build Conditions are almost identical to the information presented in the No-Build/No-Action Conditions section, because the traffic growth associated with the Taxi Pool and rental cars would increase at the same rate with or without the SWSA Redevelopment Program.

However, there are several aspects of the SWSA Redevelopment Program that would cause the Build traffic volume conditions to differ from the No-Build/No-Action traffic volume conditions:

1. Thrifty Car Rental and Advantage Car Rental would move on-airport as part of the consolidated rental car facility.
2. The Bus and Limousine Pools would be temporarily relocated to the North Service Area for the 2013 Build Condition. In the 2018 Build Condition, the Bus and Limousine Pools would be located in the SWSA, just east of Jeffries Street.
3. The Taxi Pool would be temporarily relocated to Lot B, adjacent to the Bird Island Flats garage, for the 2013 Build Condition. In the 2018 Build Condition, the Taxi Pool would be located in the SWSA, in the area previously used by Avis Rental Car.
4. The rental car shuttle bus routes would be consolidated into the Unified Bus System.
5. Massport's #22, #33, and #55 routes serving the Airport Station MBTA stop would be consolidated into the Unified Bus System.

6. The amount of off-airport RAC vehicle movements are projected to decrease with the construction of increased rental car storage and QTA space on the SWSA.
7. The amount of commercial parking located in the SWSA would be reduced (and at no time would the requirements of the Logan Airport Parking Freeze be exceeded under the Program).

Build SWSA Traffic Components

Table 3-9 below presents the 2013/2018 Build Condition traffic summary. With the relocation of the Taxi Pool, Bus and Limousine Pools and the Flight Kitchen, and shuttle bus consolidation into a Unified Bus System, the projected 2013 Build traffic volumes entering and leaving the SWSA would be approximately 65 percent less than the traffic volumes associated with 2013 No-Build/No-Action Conditions. With shuttle bus consolidation into a Unified Bus System, the projected 2018 Build traffic volumes entering and leaving the SWSA would be approximately 2 percent less than the traffic volumes associated with 2018 No-Build/No-Action Conditions.

Table 3-9
Build SWSA Traffic Summary

Land Use	2013 AWDT ¹	2013 Peak Hour Traffic Volumes ²		2018 AWDT ¹	2018 Peak Hour Traffic Volumes ²	
		Enter	Exit		Enter	Exit
Rental Car (SWSA) ³	7,818-10,548	610	409	8,862-11,962	656	394
<i>Rental Car</i>	5,710-8,440	494	300	6,470-9,570	560	339
<i>Unified Bus System</i>	1,584	59	59	1,862	67	67
<i>Off-site Rental Car Movements</i>	398	51	35	404	59	40
<i>Employees</i>	100	2	11	100	2	11
<i>Service Vehicles</i>	26	4	4	26	4	4
Rental Car (Off-airport) ^{3,4}	N/A	N/A	N/A	N/A	N/A	N/A
Taxi Pool	Relocated to Lot B			11,370-13,650	472	468
Bus/Limousine Pool	Relocated to North Service Area			7,510-8,410	289	221
Flight Kitchen	Relocated to either the North Service Area or off-airport in 2011 (at the end of the lease agreement)					
Commercial Parking	N/A	N/A	N/A	155	4	7
E. Boston Traffic (Maverick St. Gate) ⁵	970	39	17	1,005	40	18
TOTAL SWSA TRAFFIC	8,788-11,518	1,064	781	28,902-35,182	1,528	1,175

¹ Average weekday daily traffic in vehicles per day. Range reflects the variations due to flight schedule and passenger travel patterns during an average week.

² Peak hour traffic reflects an average Thursday evening peak hour in August, with Thursday being the most active traffic day of the week at the airport.

³ Includes rental cars, off-site rental car shuttling and employee traffic.

⁴ Not applicable since both Thrifty and Enterprise Rental Car companies will be located in SWSA for the Build Conditions.

⁵ Reflects magnitude of traffic at the gate after installation of new access gates in 2008.

Rental Car

The rental car AWDT and peak hour traffic volumes shown in Table 3-9 above are a summary total of the following five categories of rental car-related traffic:

- **Rental Cars** – With the inclusion of Thrifty Car Rental, total rental car traffic to and from the SWSA would range from 5,710 to 8,440 vehicles per day in 2013 and from 6,470 to 9,570 vehicles per day in

2018.

- **Unified Bus System** - The Unified Bus System vehicles would generate 1,584 daily bus trips in 2013 and 1,892 daily bus trips in 2018. (The detailed analysis of the proposed Unified Bus System is presented in the 'Unified Bus System Operations' section of this chapter.)
- **Off-Site Rental Car Moves** – With the construction of expanded rental car storage spaces and QTA areas, the rental car companies expect their off-site rental car movements to decrease when the SWSA Redevelopment Program is built. For 2013 Build conditions, 398 daily off-site rental car movements are estimated from the SWSA. From the time of the ConRAC facility opening, car shuttling activity was conservatively assumed to grow at approximately 0.5 percent per year to project 2018 Build trips.
- **Employees** – Employee parking will be restricted to 30 spaces that correspond to approximately 100 daily trips to and from the SWSA.
- **Service Vehicles and Loading Areas** – The efficiency of joint QTA and CSC operations is projected to reduce the number of service vehicles to 26 vehicles per day for 2013 and 2018 Build Conditions.

Commercial Parking

During construction of the Program, the 420-space long-term overflow commercial surface parking in the old USPS parking lot will be relocated elsewhere on airport. With the 2018 Build Conditions, approximately 233 parking spaces will be provided to the SWSA in a lot located east of the proposed Bus and Limousine Pools. Assuming trip generation characteristics similar to those in the airport's longer-term (more than 24 hours) parking areas, the commercial parking would generate approximately 153 daily trips to and from the SWSA in 2018.

Other Components

The Future Build Conditions traffic projections for the Taxi Pool, Flight Kitchen, Bus and Limousine Pools, and local traffic are identical to the Future No-Build/No-Action Conditions traffic projections.

Build Traffic Assignment

The assignment of the projected traffic volumes for each component of the SWSA Redevelopment Program reflect the regional distribution shown in Figure 3.7, new roadway and ramp connections, new SWSA internal circulation patterns and revised locations for the Taxi Pool, Bus and Limousine Pools, and the Flight Kitchen.

Massport seeks to limit Airport impacts on local roadways, particularly in the Day Square area of East Boston. Since this area's intersections currently experience congestion during peak periods, Massport carefully evaluated the potential impacts of temporarily relocating Bus and Limousine Pools to the proposed NSA location. Key to this planning was a review of existing and proposed access/egress routes and potential transportation effects.

Massport seeks to restrict traffic associated with the Bus and Limousine Pools from using local East Boston roadways. Therefore, Massport has specified appropriate access and egress routes for bus and limousine vehicles (see Figure 3.20) to be used while the pool is located in the NSA). Required routes will be posted on maps within the new bus/limousine pool lounge building. Massport will monitor Neptune Road and

Frankfort Street for vehicles diverting from the required routes and identifying non-compliant bus and limousine companies or operators for sanctions.

Vehicles destined to the bus/limousine pool at the NSA from the Ted Williams Tunnel would be directed along airport roads SR-10 and SR-2 as indicated in Figure 3.20. Those arriving via the Callahan Tunnel would access Frankfort Street via the Route 1A off-ramp at Dave's Way.

Vehicles arriving from the north via Route 1A would be directed to travel through the airport roads rather than exit Route 1A and travel inbound via Saratoga Street and Neptune Road. The vehicles would exit Route 1A South onto the Inbound Roadway and then travel along SR-10 and SR-2. From there drivers would continue onto Frankfort Street and then Lovell Street.

As shown on Figure 3.20, all vehicles exiting the Bus and Limousine Pools at the NSA to the terminals would use Frankfort Street and the North Service Road rather than Route 1A during peak periods. During non-peak periods, limousine traffic destined for the Departure level of Terminals B and C would be allowed to use a route of Frankfort Street, Neptune Road and Route 1A to access the Terminal Area Roadways.

Figures 3.21 to 3.24 present the 2013 Interim Build and 2018 Build Conditions morning and evening peak hour traffic volumes for the study area. The 2013 Interim Build morning and evening peak hour traffic volumes reflect the access and egress restrictions for the temporary Bus and Limousine Pools in the NSA.

Future Pedestrian and Bicycle Facilities

The SWSA Redevelopment Program would provide an improved pedestrian environment for employees, neighborhood residents, and visitors. Streetscape improvements and new pedestrian routes would strengthen connections between the neighborhood and the SWSA Airport Edge Buffer, mass transit, and Harborwalk. Bicycle access and bicycle parking in secured locations would be provided for public and employee use. The SWSA Redevelopment Program would enhance pedestrian and bicycle safety through the design of streetscape, intersections, and lighting and define vehicular zones with new curbing, crosswalks, sidewalks, additional plantings, and fencing.

As shown in Figure 3.25, the implementation of the SWSA Redevelopment Program would provide pedestrian connections to and from Logan Airport Terminals, the Logan Office Center, Memorial Stadium Park, Bremen Street Park, the Harborwalk, on-airport shuttle buses, public transit (Airport Station), along Porter Street, and the surrounding East Boston neighborhoods. Dedicated pedestrian corridors would be provided at each East Boston Gate and adjacent to the proposed Taxi Pools. Along the western edge of the SWSA, an enhanced pedestrian route would be constructed from Maverick Street to Memorial Stadium Park and would include a landscaped buffer. Existing access to the Harborwalk along the southeast edge of the SWSA (near the Maverick Street Gate) would remain in place and would be enhanced as part of the SWSA Redevelopment Program.

Pedestrian-actuated crossings would be provided at each signalized intersection along Harborside Drive and sidewalks provided along Harborside Drive, Jeffries Street, and Porter Street. The design of non-protected pedestrian crossings, located mid-block or at unsignalized intersections, will consider street and pedestrian-level lighting, advanced warning signs, and/or advanced warning systems as necessary to enhance pedestrian safety.

The SWSA will be bicycle accessible with connecting bikeways to the Airport Blue Line Station, Memorial Park, Bremen Station Park, the Green Way and to Maverick Street. These bicycle connections would allow employees and customers of the airport to arrive by bicycle. They can park their bicycles in a secure, covered area within the Garage Structure. Bicycle commuters can then access the Garage Structure or utilize the Unified Bus System and/or pedestrian connections to access the terminals. In summary, the proposed pedestrian and bicycle facilities would:

- Enhance the public transit network;
- Connect to landscape buffer areas;
- Encourage the ConRAC facility's employees to commute to work by walking, bicycling, or using the MBTA; and
- Complement existing pedestrian and bicycle corridors between the SWSA and Airport Station as well as to bus and water shuttle stops.



Traffic Operations Analysis

The following section describes the traffic operation analysis, level of service analysis, and shuttle bus operation analysis.

Methodology

Understanding the relationship between the supply and demand on a roadway is a fundamental consideration in evaluating how well a transportation facility fulfills its objective to safely and efficiently accommodate the traveling public. The assessment of traffic operations provides a technical evaluation of the operational qualities of the key intersections and roadway sections (including key merges and diverges) using the procedures documented in the *2000 Highway Capacity Manual*.²

This section presents the details of the traffic operations assessment for the study area intersections.

Level of Service

Level of service (LOS) is a qualitative measure based on quantitative analyses, used to describe operational conditions. Level of service incorporates factors such as speed, travel time, freedom to maneuver, and traffic interruptions. Similar to a school report card, level of service is designated A through F, with LOS A representing the best operating conditions and LOS F the worst.

When determining level of service for signalized intersections, two key outputs are calculated, volume to capacity (v/c) ratios and average delay. Both v/c ratios and average delay are calculated for each lane group and for the intersection as a whole.



2 Transportation Research Board, National Research Council, *2000 Highway Capacity Manual*, 2000.

Level of service at signalized intersections is a measure of the delay incurred by motorists. In some instances, poor progression or unnecessarily long signal cycle lengths would cause a high delay even though the v/c ratio indicates sufficient capacity. It is also possible to have acceptable delay when v/c ratios exceed 1.0. Because these conditions are possible, the analysis should consider the results of both delay and v/c calculations.

In general, a v/c ratio greater than 1.0 (meaning the traffic volume exceeds the capacity) is an indication of an actual or potential breakdown of traffic operations. In some cases, the overall intersection v/c ratio would be less than 1.0 while some lanes of the intersection are greater than 1.0. When this is the case, signal timing can often be adjusted to restore operations to acceptable conditions. When a critical lane v/c ratio is greater than 1.0, it is likely that the overall signal and geometric design are inadequate to process the existing traffic demand. In these cases, improvements that are more comprehensive may be necessary.

Several analytical software tools are used to determine level of service, depending on the type of control at the intersection. SYNCHRO 6.0 software is used for analyzing signalized and unsignalized intersections. The software uses inputs such as volumes, geometry, signal timing (if applicable), and pedestrian and parking maneuvers to assign a level of service rating.

For signalized and unsignalized intersections, level of service is defined in terms of average control delay per vehicle. Control delay includes stopped time and the time required to decelerate, move forward in the queue, and accelerate. For unsignalized intersections, the analysis assumes that traffic on the main street is not affected by traffic on the side street and therefore only estimates the level of service for left-turns from the main street onto the side street and for all movements from the side street. For a signalized intersection, level of service is determined for all approaching lane groups.

Table 3-10 below summarizes the relationship between average total delay and level of service at signalized and unsignalized intersections. The primary reason LOS criteria for an unsignalized intersection are different from those for a signalized intersection is that drivers expect different levels of performance between signalized and unsignalized intersections.

Table 3-10
Level of Service Criteria

Level of Service	Unsignalized Intersection	Signalized Intersection
	Control Delay (sec/veh)	Control Delay (sec/veh)
LOS A	0-10	≤ 10
LOS B	> 10-15	> 10-20
LOS C	> 15-25	> 20-35
LOS D	> 25-35	> 35-55
LOS E	> 35-50	> 55-80
LOS F	> 50	> 80

Source: Highway Capacity Manual (2000)

The *Highway Capacity Manual* (HCM) does not present a recommended level of service for design purposes; rather it offers a description of the conditions associated with each level of service.³ For example, LOS C is described in the manual as stable operating conditions. As conditions deteriorate to LOS D or LOS E, the HCM describes conditions with words such as unstable flow. LOS E or LOS F are generally considered unacceptable conditions.

Existing Intersection Capacity Analysis

The results of the 2007 Existing Conditions capacity analyses are summarized in Tables 3-11 and 3-12 on the following pages along with Future No-Build/No-Action and Build Conditions results. Detailed information, including capacity analysis sheets and expanded summary spreadsheets, are available in the Appendix D.

Review of the analyses indicates that current overall intersection and approach operations are at LOS D or better for both peak periods for all on-airport intersections. However, the following intersection approaches are showing operational problems:

- Harborside Drive/Porter Street /SR-14/Ramp 1A-S (signalized)
 - *Ramp 1A-S approach* – The 300-foot queue projected during the PM peak hour extends around the ramp curve creating safety, lane use and sight distance issues.
- Harborside Drive/Jeffries Street/Ramp S-T (signalized)
 - *Jeffries Street northbound approach* – The projected queue for this single lane approach is in excess of 370 feet during the PM peak hour and would extend almost to Tomahawk Drive.
- Jeffries Street/Tomahawk Drive (unsignalized)
 - *Jeffries Street southbound approach* – The single lane approach is at capacity with an average delay per vehicle exceeding 44 seconds.

One off-airport intersection, Route 1A/Boardman Street (signalized), is projected to experience operational problems.

- The intersection accommodates in excess of 4,000 vehicles in peak hour periods in a typical commuter pattern. These high volumes overload the signal system and result in a LOS F with queues in excess of 1,000 feet on Route 1A. The intersection phasing is controlled by State Police during the peak hour periods in an effort to reduce the intersection delays and queue lengths.

Future No-Build/No-Action Intersection Capacity Analysis

As expected, the additional background and projected airport-related traffic growth increase the level of delay experienced at all study area intersections. In addition to the four intersections described in the Existing Conditions section as having operational problems, three additional intersections are projected to experience increased delay. By the No-Build/No-Action 2018 conditions, several key SWSA intersections and



3 Transportation Research Board, National Research Council, 2000 *Highway Capacity Manual*, 2000.

approaches would near or be at capacity, effectively limiting access for several key transportation modes of Logan Airport:

- Harborside Drive/Porter Street/SR-14/Ramp 1A-S (signalized)
 - *Porter Street eastbound and Ramp 1A-S approaches* – The projected queues of Porter Street eastbound and Ramp 1A-S would exceed 300 and 450 feet respectively, by 2018 conditions during the PM peak hour, with operations at LOS D or worse.
- Harborside Drive/Jeffries Street/Ramp S-T (signalized)
 - *Jeffries Street northbound approach* – The projected queue for this single lane approach is well in excess of 320 feet during the 2013 and 2018 PM peak hour and would queue onto Tomahawk Drive. The analysis indicates the approach would operate at LOS D during the 2018 PM peak hour.
 - *Harborside Drive westbound approach* – The volume of left-turn traffic at this approach results in a queue of 240 feet during the 2018 PM peak hour, exceeding the length of the exclusive left-turn lane.
- Jeffries Street/Tomahawk Drive (signalized)

While operations are still projected to be poor for the Jeffries Street southbound approach (average delay per vehicle exceeding 39 seconds) by 2018, operations at this location are projected to improve due to the dramatically lower number of vehicles using the Maverick Street gate since the addition of an access-controlled gate.
- Porter Street/Wellington Road (unsignalized)

The projected increase in rental car traffic, particularly Hertz Rental Car, reduces the available gaps in traffic for the STOP-controlled Porter Street eastbound approach to the intersection.
- Route 1A/Boardman Street (off-airport, signalized)

The background traffic growth and addition of Advantage Rental Car at this location offsets the benefits gained from the relocation of Enterprise Car Rental to the SWSA. Delays are projected to slightly increase at this intersection in both 2013 and 2018 No-Build/No-Action Conditions.

Future Build Intersection Capacity Analysis

With the exception of the intersections of Frankfort Street/Lovell Street, Harborside Drive/Hotel Drive, Frankfort Street/Route1A Off-Ramp/Dave's Way and Neptune Road/Bennington (off-airport), each study area intersection is projected to improve when Build Condition results are compared to No-Build/No-Action condition results. In fact, even the off- airport Route 1A/Boardman Street intersection is projected to improve due to the on-airport relocation of Advantage and Thrifty Rental Car Companies and the projected reduction in off-airport car movements required in Future Build conditions.

The intersections of Harborside Drive/Hotel Drive, Hotel Drive/Airport Way/Ramp T-S, Frankfort Street/Route1A Off- Ramp/Dave's Way and Neptune Road/Bennington all experience a small increase in delay, but are projected to operate at LOS C during the evening peak hour period. Of note:

➤ Frankfort Street/Lovell Street

The intersection provides access to the relocated Flight Kitchen and Bus and Limousine Pools in the North Service Area. The STOP- controlled intersection operates at LOS A in the 2013 and 2018 No-Build/No-Action Condition. In 2013 Build Condition, with the addition of traffic associated with the Flight Kitchen and the Bus and Limousine Pool, as an unsiglaized intersection the intersection is projected to operate at LOS F. As discussed earlier in the Proposed Build Area/Airport-wide Transportation Improvements section, traffic signal improvements are proposed for this intersection. Under traffic signal control the intersection is project to operate at LOS C. Without the Bus and Limousine Pool, the intersection is projected to operate at LOS A during the 2018 peak hour periods.

➤ Harborside Drive and Hyatt Drive

The intersection provides access to the relocated Taxi Pool during the 2013 Build Conditions. The existing STOP-controlled intersection operates at LOS A in the 2013 and 2018 No-Build/No-Action Conditions. In the 2013 Build conditions, the Hyatt Drive approach is projected to operate at LOS C in the evening peak hour with substantial queues. With the proposed traffic signal system, the intersection is projected to operate at LOS A in 2013 Build conditions.

➤ Maverick Street Gate

Although not specifically modeled, the location of the Maverick Street Gate's access controls/gate into East Boston could need to be modified to function with a one-way Tomahawk Drive. If the existing gate location at the edge of the SWSA property were to remain, more than one vehicle arriving at the access control gate may create a potentially unsafe queue onto Tomahawk Drive. During final design, the provision of a short left-turn lane on Tomahawk Drive will be evaluated, to allow queuing vehicles to be removed from the main Tomahawk Drive traffic flow.

Table 3-11
Signalized Intersection Level of Service (LOS) Summary

Intersection/Movement	Morning Peak					Afternoon Peak				
	2007 Existing	2013 No- Build/No- Action	2013 Build	2018 No- Build/No- Action	2018 Build	2007 Existing	2013 No- Build/No- Action	2013 Build	2018 No- Build/No- Action	2018 Build
Harborside Drive/Porter Street/ SR-14/Ramp 1A-S	C	C	C	C	C	C	C	C	C	C
Harborside Drive/Jeffries Street	B	B	B	B	B	C	C	B	C	B
Harborside Drive/Hotel Drive	A	A	B	A	C	B	A	B	B	C
Harborside Drive/Hyatt Drive ¹	-	-	A	-	A	-	-	A	-	A
Hotel Drive/Airport Way/ Ramp T-S	B	B	B	B	B	C	C	C	C	C
Hotel Drive/Ramp D-S	B	B	B	B	B	B	B	B	B	B
Hotel Drive/SR-2	B	B	-	B	-	C	C	-	C	-
Frankfort Street/Route 1A Off-Ramp/Dave's Way	A	A	B	A	B	B	B	C	B	C
Frankfort Street/Lovell Street ¹	-	-	B	-	B	-	-	C	-	A
Neptune Road/Route 1A Off-Ramp (off-airport)	B	B	B	B	B	B	C	C	C	C
Neptune Road/Bennington Street (off-airport)	C	C	C	C	C	B	B	C	B	C
Route 1A/Boardman Street (off- airport)	E	E	E	F	E	F	F	F	F	F

1 currently unsignalized

Table 3-12
Unsignalized Intersection Level of Service (LOS) Summary

Intersection/Critical Movement	Morning Peak					Afternoon Peak				
	2007 Existing	2013 No- Build/No- Action	2013 Build	2018 No- Build/No- Action	2018 Build	2007 Existing	2013 No- Build/No- Action	2013 Build	2018 No- Build/No- Action	2018 Build
Unsignalized Intersections										
SR-2/Cottage St./SR-14 WB	A B	A B	A B	A B	A B	A B	A B	A C	A B	A B
Tomahawk Dr./Maverick St. Gate NB	A A	A A	A A	A A	A A	A A	A A	A B	A A	A B
Tomahawk Dr./Jeffries St. ¹ SB	B B	A B	- -	B B	- -	D E	C C	- -	D E	- -
Porter St./Wellington Rd. EB	A B	A B	A B	A B	A B	A C	A D	A B	A E	A B
Harborside Dr./Bus Pool Driveway NB	A A	A A	A A	A A	A A	A B	A B	A A	A B	A B
Harborside Dr./Hyatt Drive ² EB	A B	A B	A C	A B	A B	A B	A B	A C	A B	A B
Frankfort St./Lovell St. ² WB	A B	A B	B C	A C	A C	A B	A C	F F	A C	A C

EB – Eastbound NB –Northbound
WB – Westbound SB - Southbound

- 1 Operational improvement shown in 2013 No-Build/No-Action due to reduced traffic through Maverick Street gate
2 2013 and 2018 Build conditions reflects unmitigated, unsignalized intersection operations.

Unified Shuttle Operations

The SWSA Redevelopment Program will be served by a Unified Bus System operation. The Unified Bus System will serve both Airport Station MBTA travelers and rental car customers. The proposed Unified Bus System would:

- Replace the existing individual rental car shuttle operations (eight separate rental car shuttle bus fleets);
- Replace Massport's existing airport bus routes 22/33/55 that currently connect MBTA Airport Station;
- Utilize 60-foot, articulated buses with clean/low-emission fuels;⁴
- Reduce the rental car shuttle bus fleet by 70 percent (from 94 vehicles to 28 vehicles);
- Allow MBTA travelers and rental car customers to travel from Airport Station and ConRAC directly to the Departures Level at terminals (riders are currently dropped off at the Arrivals level and use the terminal escalators to get to Departures level)



⁴ Articulated' buses have three doors and are fitted with an extra wheel axle and a joint usually located slightly behind the midpoint of the bus, behind the second axle.

- Reduce travel time for many bus passengers by creating separate Terminal A/B and Terminal C/E routes instead of having one route stop at all terminals.
- Create direct access from the MBTA's station public transit to the rental car facility and vice versa making it convenient for the public, including rental car employees. Include the installation of efficiency improvements and Intelligent Transportation System (ITS) elements, such as:
 - Operations Center within ConRAC facility;
 - Enhanced operations management;
 - Advanced communication system;
 - Enhanced Automatic Vehicle Location (AVL) system;
 - Automated scheduling/dispatch system;
 - Dynamic message signs at Airport Station and ConRAC pick-up curbsides;
 - System integration with terminal curbside camera systems; and
 - Camera coverage of Airport Station and ConRAC curbsides.
- Result in less curbside congestion, the existing 90 to 100 or so rental car shuttle bus trips per hour are replaced by 15 to 20 trips per hour; and
- Result in an over 65 percent reduction in VMT (and associated air emissions) when compared to the 2018 No-Build/No-Action Condition.

As discussed earlier in this chapter, the Unified Bus System includes a proposed bus ramp connection off the existing SR-14 to the second level of the CSC. This allows separation of the boarding and alighting movements from the proposed Arrivals and Departures routes. The proposed consolidation of the Hotel Drive signalized intersections with Ramp D-S and SR-2 would improve the efficiency of the proposed routes by limiting stopped delays at traffic signals and reducing route distances. Curbside improvements at Airport Station would be included as part of the Unified Bus System to allow separation of the boarding and alighting movements from the proposed Arrivals and Departures service routes.

This section presents the evaluation of the rental car shuttle bus and Massport bus (routes 22/33/55) and operations under the 2007 Existing Condition, 2013 and 2018 No-Build/No-Action Conditions, and 2013 and 2018 Build Conditions.



Existing Shuttle Bus Operations

Under the 2007 Existing Condition, individual rental car companies run and control their own shuttle bus operations and Massport operates a shuttle service between Airport Station and the terminals (routes 22/33/55).

Rental Car Shuttle Bus Operations

Each of the eight rental car companies as of 2007 operate 24 hours per day and each operates their own fleet of shuttle buses. The combined fleet consists of 94 vehicles, ranging in length from 20-foot shuttles with 14 seats to 40-foot buses with 29 seats. Two-thirds of the fleet are shuttles 30 feet or longer.

The rental car companies report that 64 shuttles are in operation during peak periods. Actual headways observed at curbside are lower than reported by the rental car agencies. Most companies operate headways of three to four minutes and there were between 90 and 120 shuttles per hour observed at each terminal (as frequent as one shuttle every 30 seconds) during the 2007 data collection period.

Because each rental car agency operates its own route, each shuttle trip must make a stop at each of the terminal buildings (with separate stops at both sides of Terminal B) before returning to the rental car lot. With eight different rental agencies operating shuttles to each terminal stop, four or five buses routinely compete for limited curb space.

The distance for each shuttle roundtrip ranges from about 3 miles for the six on-airport rental car agencies, to about 6.5 miles for the two off-airport rental car agencies. Table 3-13 below shows that the existing rental car shuttle fleet operates approximately 6,561 VMT per day. The estimate of VMT is based on rental car agencies' reported peak period activity, with off-peak activity estimated using hourly transaction data and assumptions about minimum service levels. The daily VMT estimate assumes hourly trips for rental car agencies ranging from two trips during the overnight hours to 15 trips during peak hours. Details of these calculations are provided in Appendix D.

Table 3-13
2007 Existing Rental Car Shuttle Vehicle-Miles-Traveled (VMT)

RAC Company	Location	Round Trip Length (miles)	Number of Trips per Day	Daily VMT
Avis	SWSA	2.83	247	699
Budget	SWSA	2.75	247	679
Hertz	SWSA	3.00	247	741
National	SWSA	2.71	247	669
Alamo	SWSA	2.95	247	729
Enterprise ¹	1A	5.43	206	1,119
Thrifty	1A, Revere	7.50	206	1,545
Dollar	SWSA	2.99	<u>127</u>	<u>380</u>
			1,774	6,561

¹ Enterprise has since moved on-airport. This is reflected in the future no-build & build conditions

Massport Airport Station Buses

Massport operates three bus routes that connect Airport Station and the terminals (routes 22/33/55). From noon until 10:00 pm, there are two routes, each operating on 10-minute headways: the Route #22 bus serves Terminal A and Terminal B, while Route #33 bus serves Terminal C and Terminal E. During other times the Route #55 bus serves all four terminals, with about four trips per hour per bus, maintaining 15 minute headways. Table 3-14 shows the typical number of daily trips and VMT. Details of the calculations are provided in Appendix D.

Table 3-14
2007 Existing Massport Airport Station Bus Vehicle-Miles-Traveled (VMT)

Route	Hours of Operation	Round Trip Length (miles)	Number of Trips per Day	Daily VMT
#22	12-10 pm	2.59	100	259
#33	12- 10 pm	2.13	100	213
#55	5 am – 12 pm 10 pm – 1 am	2.70	<u>156</u>	<u>420</u>
			356	892



No-Build/No-Action Shuttle Bus Operations

The No-Build/No-Action Conditions for both 2013 and 2018 maintain separate rental car agency shuttles and continue the use of Massport bus routes 22/33/55. Under the No-Build/No-Action Conditions, there are three significant changes in the rental car shuttle bus operations, including:

1. Enterprise Rental Car operations are relocated from Route 1A to the SWSA. The relocation of Enterprise Rental Car operations to the airport means that there would be the same number of shuttle trips but fewer miles would be traveled by the Enterprise shuttles.
2. National Car Rental and Alamo Car Rental combine their busing operations. The combined National and Alamo busing operation is expected to use the same bus type and service headways that National currently uses. That service matches the current service provided by Avis and by Hertz, both of which have the same or higher market shares than the combined National/ Alamo market share. With the elimination of the Alamo Car Rental shuttle fleet there would be a decrease in the number of shuttle trips and a decrease in VMT.
3. Advantage Car Rental agency will enter the rental car market and operate shuttle buses from the Hertz off-airport location on McClellan Highway. These reductions are offset by the additional shuttle trips and VMT associated with Advantage Rent-A-Car. Advantage is assumed to operate the same number of shuttle trips as Thrifty since both are Budget brands.

Although passenger activity is forecast to increase by 1.5 percent through 2013 and 15.1 percent through 2018 from 2007 levels, no change in shuttle headways would be necessary for the rental car agencies. An analysis of current and future hourly shuttle passenger loads indicates that those rental car agencies currently operating larger shuttle buses have sufficient capacity to accommodate increased passenger loads without increasing the frequency of shuttle trips. Those rental car agencies currently operating smaller shuttle vehicles can use larger vehicles instead of increasing the frequency of trips.

Under the 2013 and 2018 No-Build/No-Action Conditions, the separate rental agency shuttles would continue to stop at each Terminal. However, the number of shuttles per hour stopping at each Terminal would be slightly reduced. The combined National/ Alamo operations would reduce hourly shuttle trips passing by the terminals by about 15, while the new Advantage operations would increase shuttle trips by about 12.

Table 3-15 below compares the daily trips and daily VMT for the rental car shuttles under the 2007 Existing Condition and for No-Build/No-Action Conditions. Because the frequency of shuttles for each agency is the

same under both the 2013 and 2018 No-Build/No-Action Condition, the number of trips and VMT is the same for both 2013 and 2018. The difference would be a decrease of 441 (2.3 percent) daily trips and a decrease of 39 (0.6 percent) daily VMT.

Table 3-15
Future No-Build/No-Action Rental Car Shuttle Bus Vehicle-Miles-Traveled (VMT)

RAC Company	2007 Existing Conditions			2013 and 2018 No-Build/No-Action Conditions		
	Round Trip Length (miles)	Number of Trips per Day	Daily VMT	Round Trip Length (miles)	Number of Trips per Day	Daily VMT
Avis	2.83	247	699	2.83	247	699
Budget	2.75	247	679	2.75	247	679
Hertz	3.00	247	741	3.00	247	741
National	2.71	247	669	2.71	247	669
Alamo	2.95	247	729	Combined with National		
Enterprise	5.43	206	1,119			
Thrifty	7.50	206	1,545	7.50	206	1,545
Dollar	2.99	127	380	2.99	127	380
Advantage		No Service		5.83	<u>206</u>	<u>1201</u>
TOTAL		1,774	6,561		1,733	6,522

There are no differences between the daily trips and VMT of MPA's #22, #33, and #55 routes serving Airport Station under Existing Conditions and future No-Build/No-Action Conditions. The current bus frequency and capacity is anticipated to accommodate anticipated ridership volumes from MBTA travelers.



Future Build Shuttle Bus Operations

Under the future Build Conditions, all of the SWSA rental car company shuttle buses would be consolidated and combined with the MPA buses between Airport Station and the terminals (routes 22/33/55) under the Unified Bus System.

Unified Bus System (2013)

The SWSA Redevelopment Program enables the implementation of the Unified Bus System. The proposed Unified Bus System will combine all of the shuttles now operated independently by each rental car agency, as well as integrate the rental car shuttle service with Massport's bus service between Airport Station and the terminals (routes 22/33/55).

In addition, the Program would provide rental car customers and MBTA travelers with dedicated shuttle service for both the departures and arrivals roadway levels at each Terminal. These changes would improve customer service, reduce curbside traffic congestion, and reduce VMT. The resulting air quality benefits would be further enhanced by Massport's commitment to use a clean-fuel low-emission bus fleet for the unified busing operation.

Currently, rental car and Airport Station buses are only able to access the arrivals (lower) level at each Terminal. The SWSA Redevelopment Program would include a new ramp connecting the service area roadways with the upper level Departure roadways. This direct access would enhance customer service by bringing departing passengers directly to the ticket counter level at each terminal. Arriving passengers would continue to be met at the lower, baggage-claim level. In addition, passengers on the Unified Bus System would not be inconvenienced by simultaneous boarding and alighting of passengers. The shuttle service on the Departures level would carry only passengers traveling from Airport Station and the SWSA to the terminals. The shuttle service on the Arrivals level would carry only passengers traveling from the terminals to Airport Station and the SWSA.

The Unified Bus System would be more responsive to hourly, daily and seasonal variations in air passenger activity than is the current system of separate shuttle operations for each rental car agency and the fixed schedule for the Airport Station buses. Based on a detailed evaluation of rental car and commercial parking activity, the optimal unified busing service will use a single bus serving all terminals during overnight hours and have two routes (Terminals A/B and Terminals C/E) during most hours. The analysis of the assumed bus routing concept is included in Appendix D.

The flexibility of the Unified Bus System provides most air passengers the benefits of shorter in-bus travel times and more frequent service. Without a Unified Bus System, air passengers arriving at Terminal B, for example, must stop at Terminal C and Terminal E on the way to Airport Station or the rental car agencies. With unified busing operating a split route, air passengers arriving at Terminal B would proceed directly to Airport Station and the SWSA.

Consolidation of individual rental car shuttle bus fleets into one Unified Bus System operation would reduce curbside congestion. Instead of eight different rental car company shuttle buses and the Airport Station bus competing for curb space at each terminal, there will be only one bus system. During peak periods, when the Unified Bus System is operating every 3 to 4 minutes, there would be 15 to 20 buses per hour stopping at each Terminal, compared to more than 90 per hour among the Airport Station bus and the separate rental car shuttle bus fleets.

The Unified Bus System requires a smaller bus fleet and reduces VMT compared to No-Build/No-Action Conditions. As shown in Table 3-16 below, VMTs associated with the rental car shuttle buses are 65 percent less with a consolidated rental car shuttle compared to eight separate rental car shuttles. This is a savings of about 4,250 miles each day.

Table 3-16
2013 Build Unified Bus System Vehicle-Miles-Traveled (VMT)

2013 No-Build/No-Action Conditions Separate Shuttles				2013 Build Conditions Unified Bus System			
	Round Trip Length (Miles)	Number of Trips Per Day	Daily VMT		Round Trip Length ¹ (Miles)	Number of Trips Per Day ¹	Daily VMT
RAC Shuttles				Unified Bus			
Avis	2.83	247	699	Departures Level			
Budget	2.75	247	679	A/B Route	2.96	155	459
Hertz	3.00	247	741	C/E Route	2.65	118	313
National/Alamo	2.71	247	669	ABCE Route	3.14	96	301
Enterprise	2.95	206	608	Arrivals Level			
Thrifty	7.50	206	1,545	A/B Route	3.02	190	574
Dollar	2.99	127	380	C/E Route	2.57	176	452
Advantage	5.83	<u>206</u>	<u>1201</u>	ABCE Route	3.06	<u>57</u>	<u>174</u>
	Subtotal	1,733	6,522			792	2,273
MPA Shuttles							
#22	2.59	170	440				
#33	2.13	170	362				
#55	2.70	<u>76</u>	<u>204</u>			Not Operating	
	Subtotal	416	1,007				
	Total	2,149	7,529			792	2,273

¹ See Appendix D for specifics of time-of-day shuttle bus routing and headways

Unified Bus System (2018)

As with the 2013 Build Condition, under the Build Condition for 2018 all of the SWSA rental car agencies and the service between Airport Station and the terminals share a Unified Bus System. The 2018 Build Condition provides the same customer service benefits as for the 2013 Build Condition, including direct access to the departure level, shorter in-bus travel times, and more frequent shuttle service.

The 2018 Build Condition provides a similar reduction in curbside congestion as the 2013 Build Condition. There would be approximately 15 to 20 Unified Bus System buses arriving at each terminal each hour, compared to more than 90 per hour with separate rental car shuttle bus fleets and the Massport Airport Station buses.

The 2018 Build Condition VMT would be higher compared to 2013 Build Condition. This is due to an increase in air passengers between 2013 and 2018 that would require extending the hours of peak-period shuttle service. As shown in Table 3-17, compared to the No-Build conditions the 2018 Build Conditions reduce daily VMT from 7,529 to 2,664, a reduction of 65 percent.

Table 3-17
2018 Build Rental Car Shuttle Bus Vehicle-Miles-Traveled (VMT)

2018 No-Build/No-Action Conditions Separate Shuttles				2018 Build Conditions Unified Bus System			
	Round Trip Length (Miles)	Number of Trips Per Day	Daily VMT		Round Trip Length ¹ (Miles)	Number of Trips Per Day ¹	Daily VMT
RAC Shuttles				Unified Bus			
Avis	2.83	247	699	Departures Level			
Budget	2.75	247	679	A/B Route	2.96	190	562
Hertz	3.00	247	741	C/E Route	2.65	159	421
National/Alamo	2.71	247	669	ABCD Route	3.14	105	330
Enterprise	2.95	206	608	Arrivals Level			
Thrifty	7.50	206	1,545	A/B Route	3.02	216	652
Dollar	2.99	127	380	C/E Route	2.57	204	524
Advantage	5.83	<u>206</u>	<u>1201</u>	ABCD Route	3.06	<u>57</u>	<u>174</u>
	Subtotal	1,733	6,522			931	2,664
MPA Shuttles							
#22	2.59	170	440				
#33	2.13	170	362				
#55	2.70	<u>76</u>	<u>204</u>			Not Operating	
	Subtotal	416	1,007				
	Total	2,149	7,529			931	2,664

¹ See Appendix D for specifics of time-of-day shuttle bus routing and headways

Parking Analysis

The number of commercial and employee parking spaces available at Logan Airport is limited by the Logan Airport Parking Freeze (310 CMR 7.30). The Logan Airport Parking Freeze complements the other parking freezes in the City of Boston. Established in 1989 under rules of the Massachusetts Department of Environmental Protection (DEP)⁵, the East Boston Parking Freeze (310 CMR 7.31) encourages relocation of rental car spaces from the East Boston Parking Freeze onto the airport by limiting the availability of park-and-fly parking spaces and rental car vehicle parking spaces in East Boston.

Consequently, Massport manages on-airport parking supply in full accordance with the Logan Airport Parking Freeze and Massachusetts DEP regulations. Massport currently maintains an inventory of 17,319 commercial parking spaces and 3,373 employee spaces for a total of 20,692 parking spaces at Logan Airport. Under the terms of the Logan Airport Parking Freeze Massport manages these spaces to meet changing operating needs and conditions. For example, to adjust for construction projects or peak travel demand periods, Massport is able to open, close or move parking spaces on airport, as long as the limits of the parking freeze are not exceeded. Within these guidelines, Massport has the flexibility to manage on-airport parking inventory. The management of Logan Airport's parking inventory is an active and dynamic process, necessary to meet the varying levels of supply (mostly due to construction activities) and the seasonal fluctuations of parking demand.



⁵ Code of Massachusetts Regulations, Department of Environmental Protection, CMR Section 310, 7.3.

The SWSA Redevelopment Program would have a minor impact on the management of commercial parking at the airport. The old USPS parking lot is located within the SWSA and its 416 parking spaces are sometimes used to accommodate seasonal overflow parking. In 2018, approximately 233 parking spaces will remain returned to the SWSA in a new surface parking lot located east of the new Bus and Limousine Pool. The remainder of the displaced long-term overflow commercial surface parking is expected to continue to be accommodated within other overflow parking locations on-airport, as necessary to meet parking demand within the limitations of the Logan Parking Freeze.

Proposed Beneficial Measures

The location of the SWSA, the proposed Unified Bus System, and the proposed pedestrian and bicycle facilities combined could provide further reductions in traffic impacts projected. Additional transportation mitigation is proposed to facilitate the required site access and circulation, manage transportation demands, and improve the overall pedestrian and vehicle movement in the study area. The following improvements benefit to the Program and the overall study area.



Roadway Improvements

As illustrated in Figures 3.13 to 3.19, the SWSA Redevelopment Program includes numerous roadway and intersection improvements as part of the proposed access and circulation pattern for the SWSA. While integral to the access proposal, it is important to note that the transportation improvements included in the SWSA Redevelopment Program mitigate a number of projected No-Build/No-Action Condition issues regarding roadway and intersection capacity. The following is a summary list of physical transportation improvements included in the SWSA Redevelopment Program (a more detailed description of the improvements can be found in the Build Condition discussion earlier in this chapter.):

- Reconstructing Porter Street, including provision of a turnaround for exiting taxis.
- Reconfiguring SR-14 and new alignment of Ramp 1A-S.
- Constructing new Ramp S-D.
- Reconstructing traffic signals and providing pedestrian accommodations (including crosswalks) at three intersections:
 - Harborside Drive and Porter Street
 - Harborside Drive/Jeffries Street
 - Harborside Drive/Hotel Drive

- Reconstructing, widening and converting Jeffries Street to one-way northbound of Jeffries Street, between Harborside Drive and Hotel Drive Extension.
- Reconstruction and extension of Tomahawk Drive as a one-way westbound roadway connecting Harborside Drive with the Maverick Street Gate and Garage Structure.
- Reconfiguring of inbound lane of the Maverick Street Gate to provide additional queue storage.
- Reconstructing of the Hotel Drive and Ramps D-S and the Hotel Drive and SR-2 intersections as one, consolidated signalized intersection.
- Reconstruction of the northern portion of SR-14 to provide a bus drop-off lane and curbside space for the proposed Unified Bus System's Arrival level buses.

Interim Build Improvements

Two intersection are projected to decline in operation when comparing the 2013 and 2018 No-Build/No-Action Conditions to the 2013 and 2018 Build Conditions. The unsignalized intersections of Frankfort Street and Lovell Street and Harborside Drive and Hyatt Drive are projected to operate at LOS F and D, respectively, during 2013 Build Conditions due to the additional traffic associated with a relocated Bus and Limousine Pools and Taxi Pool. (Table 3-12). Figures 3.18 and 3.19 present conceptual traffic signal installations for both locations. Analysis results indicate that under traffic signal control the Frankfort Street and Lovell Street and Harborside Drive and Hyatt Drive intersections each are projected to operate at LOS C or better.



Pedestrian and Bicycle Facilities

As shown in Figure 3.25, the implementation of the SWSA Redevelopment Program would provide:

- Enhanced pedestrian connections to and from Logan Airport Terminals, the Logan Office Center, Memorial Stadium Park, Street Park, the Harborwalk, on-airport shuttle buses, public transit (Airport Station), the Taxi Pool, and the surrounding East Boston neighborhoods.
- Enhanced bicycle connection to and from Memorial Station Park, on-airport shuttle buses, public transit (Airport Stations), Greenway, Bremen Street Park, and surrounding East Boston neighborhood.
- An enhanced pedestrian/bicycle route would be constructed from Maverick Street to the Memorial Stadium Park along the western edge of the SWSA and would include a landscaped buffer.
- Existing access to the Harborwalk along the southeast edge of the SWSA (near the Maverick Street Gate) would remain in place and would be enhanced as part of the SWSA Redevelopment Program.
- The design of all non-protected pedestrian crossings, located mid-block or at unsignalized intersections, would include enhancements to pedestrian safety, such as street and pedestrian-level lighting and advanced warning signs, and/or advanced warning systems.
- Secure and covered bicycle racks at grade near the proposed CSC and QTA buildings and open space for employees and general public.

- Improved bicycle access to the ConRAC for employees and airline passengers.



Unified Bus System

The Unified Bus System would result in a reduction from 94 buses (the 2007 Existing Condition) to a maximum of 28 buses (the future Build Conditions) at the terminal curbsides each hour, which represents a 70 percent reduction. The proposed Unified Bus System would improve customer service, reduce curbside traffic congestion, provide a safer, more manageable experience for pedestrians, and reduce vehicle-miles-traveled (VMT). The Unified Bus System operation is expected to carry as many as 2,000 passengers per hour while operating two dozen buses at headways as short as three minutes.

With the reduction in the rental car shuttle bus fleet, elimination of Massport bus routes (22/33/55) and proposed Ramp S-D, VMTs for shuttles are projected to be reduced by approximately 65 percent with Unified Bus System compared to running separate shuttle bus fleets for eight rental car companies and the Massport bus routes between Airport Station and the terminals. This equates to a reduction of approximately 4,865 vehicle miles daily and a savings of around 400,000 gallons per year of fuel depending on the Unified Bus System fuel option. The resulting air quality benefits from the Unified Bus System would be further enhanced by Massport's commitment to use a clean-fuel low-emissions shuttle bus fleet.



Intelligent Transportation System Improvements

To ensure a high level of customer service, the SWSA Redevelopment Program will include a number of Intelligent Transportation System improvements, including:

- The Unified Bus System will be actively managed by dedicated staff and an operations center will be included in the ground floor of the CSC building.
- The Unified Bus System will include expanded automatic vehicle locator (AVL) systems for the buses, automatic passenger count (APC) systems for the buses, curbside camera systems, and dynamic message signs for real-time schedule information for passengers.
 - The vehicle locator system will provide location, directional, and speed information on all buses. It is anticipated that dedicated short-range communication (DSRC) antennas, controllers and cabinets will be installed at strategic locations airport-wide to supplement existing coverage to a level appropriate with the desired Unified Bus AVL system.
 - There will be monitoring links to existing camera systems at terminal curbs, and new weatherproof, pan/tilt/zoom capable camera systems installed to cover the Airport Station and ConRAC bus curbs.
 - Three-line, monochrome LED dynamic message signs (DMS) will be installed facing doorways and at designated bus loading areas on the ground level Departures curb. Dynamic message signs will be installed at the Airport Station Departure bus lane and curbside.

- The operations center will have approximately 1,000 square feet to accommodate a minimum of two monitoring positions, and will have communications equipment and connections, computers and monitors, and software to provide bus scheduling/tracking/camera control/feed/recording, DMS sign control, and real-time vehicle monitoring.



Off-Airport Improvements

While no specific capacity improvements are proposed as part of the SWSA Redevelopment Program, the movement of off-airport rental car companies to the SWSA and results in reduced traffic on the Route 1A corridor. The SWSA Redevelopment Program's construction of expanded rental car ready and return parking spaces and QTA areas would reduce the amount off-airport car shuttling, further reducing traffic on Route 1A.



Transportation Demand Management (TDM)

Massport is committed to providing a TDM program, in conjunction with the rental car companies that encourages use of alternate modes of transportation such as walking, bicycling, and public transit. TDM measures are typically targeted towards employees and the SWSA Redevelopment Program will include the most effective TDM measure: a significant limitation of on-site parking. Furthermore, the proximity of the SWSA to East Boston neighborhoods provides an opportunity to encourage pedestrian and bicycle users accessible routes through the SWSA. Potential TDM measures include the following:

- Employee parking within the SWSA will be limited to approximately 30 spaces.
- Each rental car company will participate in the Logan TMA. The TMA will assist the rental car companies to:
 - Provide on-site sale of transit passes to employees.
 - Provide employees with transit and rideshare information such as maps and schedules, as well as details of all available transit benefits and commuting transportation alternatives.
 - Provide ride-matching services.
 - Provide reduced-rate HOV/transit fare options.
- Provide new pedestrian and bicycle facilities, including secure and covered bicycle storage at the CSC and QTA buildings for employees, customers and the general public, as well as shower/changing facilities within the QTA buildings for employees.

Conclusion

The SWSA Redevelopment Program would result in improved traffic operations for the airport roadway system. Passenger growth, and therefore rental car, taxi, and limousine traffic, are projected to grow regardless of the construction of the SWSA Redevelopment Program. However, the Program will consolidate ground transportation facilities resulting in more efficient roadway usage, bus operations and improved

traffic conditions. Daily traffic estimates for the SWSA during the 2018 Build Conditions are projected to be approximately 2 percent lower than 2018 No-Build/No-Action traffic estimates.

The existing roadway system is projected to be strained under the load of the projected traffic in 2013/2018 No-Build/No-Action Conditions. Consolidation of the shuttle bus operation would effectively reduce the amount of daily traffic to and from the SWSA during Build Conditions to below the projected No-Build/No-Action daily traffic. With the proposed circulation improvements and roadway mitigation, operations at every study area intersection are projected to improve from No-Build/No-Action Conditions.

Additionally, the proposed Unified Bus System would: 1) improve customer service; 2) reduce terminal curbside traffic congestion; 3) reduce VMT; and 4) reduce air quality impacts. The resulting air quality benefits will be further enhanced by Massport's commitment to use a clean-fuel low-emissions shuttle bus fleet for the Unified Bus System (refer to Chapter 4, *Air Quality and Noise*). The Unified Bus System requires a smaller shuttle bus fleet and reduces VMT. VMTs are 65 percent less with the Unified Bus System compared to rental car shuttle systems from eight separate companies and the three Massport Airport Station bus routes.

Lastly, the proposed pedestrian and bicycle connections included in the SWSA Redevelopment Program would create an improved pedestrian experience for airport employees, visitors, and neighbors. Additional measures, including shower/changing facilities in the QTA buildings for employees, would encourage greater walk and bicycle access.

Air Quality and Noise

Introduction

This chapter summarizes the updated air quality analyses and noise assessment conducted for the Revised SWSA Redevelopment Program Final EIR/EA. Construction-related air quality and noise impacts are presented in Chapter 6, *Construction*.

Supplemental air quality analysis information is provided to addresses several specific issues raised in the Secretary's Certificate on the 2009 Notice of Project Change (NPC) dated December 23, 2009, including:

- Clarification of methodology (specifically, the modeling parameters) for the microscale and mesoscale analyses;
- Program-related carbon monoxide (CO) emissions and compliance with the federal Clean Air Act (CAA) General Conformity Rule;
- U.S. EPA Motor Vehicle Emissions Model, MOBILE6.2, "cold start" emission factors;
- Ultra-fine particulate matter (PM_{0.1}) and the applicability of public health studies related to operations at Logan Airport;
- Fuel use associated with the Unified Bus System and projected emission reductions;
- Evaluation of enclosing the Garage Structure; and
- Consideration of additional Transportation Demand Management (TDM) measures.

Chapter 2, *Sustainable Design and Greenhouse Gas Assessment* of this Final EIR/EA provides an updated discussion on Greenhouse Gas (GHG) emissions, including an expanded TDM Plan and the quantification of potential GHG emissions reductions associated with the operation of the Program.



Key Findings and Benefits

The following section outlines the key air quality and noise findings and benefits.

Air Quality

The key findings of the SWSA Redevelopment Program air quality analyses include the following:

- The Program would not result in significant air quality impacts to the surrounding community.

- The SWSA Redevelopment Program (specifically the Unified Bus System, which includes the consolidation of the rental car shuttle bus fleet in combination with existing Massport bus routes that service the MBTA Blue Line Airport Station and the use of clean/low-emission fuel) is a major component of Massport's overall goal to reduce motor vehicle emissions at the airport.
 - The Mesoscale Emissions Inventory demonstrates an overall decrease in emissions (nitrogen oxides (NO_x), volatile organic compounds (VOCs) and carbon monoxide (CO)) when comparing the 2013 Interim Build and 2018 Full Build Conditions to the 2007 Existing Condition and future No-Build/No-Action Conditions of the same years¹. The results are presented for two possible Unified Bus System alternative fueling options: (i) Clean Diesel Hybrid and (ii) Compressed Natural Gas (CNG).
 - Under both fuel type options, these reductions in NO_x, VOC, and CO emissions are attributable to: (i) a reduction in overall VMTs (associated with the rental cars and Unified Bus System); (ii) the upgrading of the shuttle bus fleet with new, lower NO_x-emitting vehicles; and (iii) the U.S. Environmental Protection Agency's (EPA) Federal Motor Vehicle Emissions Standards (FMVES) program (reflected in the MOBILE6.2 model).
- The SWSA Redevelopment Program will comply with the applicable State and Federal air quality standards and regulations as well as Massport's Air Quality Initiative.
 - The future-year, Program-related NO_x and VOCs emissions (the two primary precursors to ozone (O₃) formation – a pollutant for which the Boston area is declared “non-attainment”) and CO (a pollutant for which the Boston area was formerly designated “non-attainment”) are well within the federal CAA General Conformity Rule *de minimis* levels.
- Based upon Microscale Atmospheric Dispersion/Carbon Monoxide (CO) “Hot-Spot” Modeling results, CO and Particulate Matter (PM_{10/2.5}) concentrations in the vicinity of the SWSA (i.e., the neighborhoods of East Boston, including Jeffries Point) are expected to remain below the National Ambient Air Quality Standards (NAAQS) for these pollutants.
- Based upon the CO “hot-spot” dispersion modeling, the highest predicted levels of this pollutant in the vicinity of nearby roadway intersections are also expected to remain below the NAAQS for this pollutant.
- The proposed Garage Structure is not expected to have a significant effect on pedestrian-level winds on or near the SWSA or in the adjoining neighborhoods.

The specific air quality benefits inherent to the SWSA Redevelopment Program, which would help to reduce NO_x, CO, and VOC emissions, both locally and regionally, include the following:

- Consolidating the on- and off-airport rental car operations into one shared ConRAC facility with a common shuttle bus system;
- A new, fuel-efficient/clean-fueled Unified Bus System, which would reduce VMT by consolidating the rental car shuttle bus fleets and combining the rental car shuttle bus routes with existing Massport bus routes (between the MBTA Blue Line Airport Station and the main terminals);



¹ The construction –related VMT associated with the temporary relocation of the Bus/Limo and Taxi pools during the 2011 to 2015 construction period is included in the construction emissions inventory and discussed in Chapter 6, *Construction*.

- Roadway and intersection improvements and traffic signal upgrades, including signal system improvements at Frankfort Street/Lovell Street near the North Service Area (NSA) for the temporary relocation of the Bus and Limousine Pools, all of which would improve traffic flow, reducing stop-and-go driving, and reduce excess motor vehicle emissions;
- A dedicated service road and loop at the Garage Structure will provide efficient pick-up/drop-off to terminals and other ground transportation facilities and reduce emissions;
- Improved access to public transit at the MBTA Blue Line Airport Station and the Silver Line stop at Terminal A for ConRAC employees and customers;
- New pedestrian and bicycle facilities/access to the SWSA for ConRAC employees and/or customers;
- Requiring rental car companies to join the Logan Employee Transportation Management Association (TMA) to promote alternative means (reduce single-occupancy vehicles); and
- Requiring construction contractors install emission control devices on certain equipment types (i.e., front-end loaders, backhoes, excavators, cranes, and air compressors).

Noise

The key findings and benefits from the SWSA Redevelopment Program noise analysis include:

- The Program would not result in significant noise impacts to the surrounding community.
 - Day-night average noise levels (DNL) from SWSA on-site sources under the 2018 Build Condition would be lower throughout the surrounding community than under the 2018 No-Build/No-Action Condition.
 - Overall combined DNL noise levels from both on-site and off-site sources for the 2018 Build Condition would be equal to or lower than the noise levels under the 2018 No-Build Condition throughout the community.
- Based on the modification to the Garage Structure (location, reduced height and design), sound paths from the façade to homes are more distant compared to the location of the Garage Structure under the 2008 Draft EIR/EA. As a result, previously expected increases of noise levels from single events, such as car door slams and alarms, from the upper levels are reduced when compared to the 2008 Draft EIR/EA.
- Traffic noise associated with the rental car shuttle bus fleets would be reduced with the Unified Bus System (because individual buses for each rental car company would be consolidated into a common shuttle system) and because the Unified Bus System would operate farther away from the airport edge and community on the opposite side (airside) of the Garage Structure compared to the 2007 Existing and future No-Build/No-Action Conditions.
- The Bus and Limousine Pools currently exist at the SWSA. Noise levels associated with the Bus and Limousine Pools under the 2018 Build Condition would be less than the 2007 Existing and 2018 No-Build/No-Action Conditions due to the proposed noise barriers that would not be present otherwise.
- Noise abatement elements have been incorporated into design and site landscaping and improvements to QTA facilities are proposed to ensure that potential increases in noise levels are mitigated.

Air Quality

A key benefit of the SWSA Redevelopment Program is the opportunity to reduce air emissions associated with motor vehicle operations on the airport. This chapter presents the results of the air quality assessment conducted for the proposed program. Also included are brief discussions of relevant federal and state air quality regulations as well as summary listings of beneficial measures designed to help further reduce emissions and improve air quality conditions in the vicinity of the SWSA. Information, data and other materials collected, developed, and utilized in support of the air quality assessment are contained in Appendix E. An assessment of construction-related air quality impacts associated with the SWSA Redevelopment Program is contained in Chapter 6, *Construction*.



Air Quality Analysis

This section presents the methodology and findings of the updated air quality analysis for the Revised SWSA Redevelopment Program. In accordance with the Secretary's Certificate on the October 2009 NPC and with National Environmental Policy Act (NEPA) guidelines, the air quality assessment comprises the following updated analyses:

- Mesoscale Analysis of Ozone (O₃) Precursors; and
- Microscale Atmospheric Dispersion Modeling of Carbon Monoxide (CO) and Particulate Matter (PM) and "Hot-Spot" Modeling of CO.

For each analysis, the assessment criteria and modeling methodology is documented. An assessment of Greenhouse Gas (GHG) emissions is provided in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment* of this Final EIR/EA.

Regulatory Context

Air quality at the airport is regulated by federal and state requirements, including the Clean Air Act (CAA) General Conformity Rule and the State Implementation Plan (SIP), respectively. In addition, Massport's voluntary Air Quality Initiative (AQI) lays out its goal of maintaining Logan Airport-related NO_x emissions at, or below, 1999 levels.

State Implementation Plan

Currently, the entire Boston metropolitan region (including the area surrounding Boston-Logan International Airport and the SWSA) is designated by the U.S. Environmental Protection Agency (EPA) and Massachusetts Department of Environmental Protection (DEP) as an "attainment" area for all of the National and State Ambient Air Quality Standards (AAQS); with the exception of the eight-hour standard for ozone (O₃).^{2,3} This "non-attainment" designation for O₃ is further classified as "moderate" and is based upon air quality



- 2 AAQS have been established for the following "criteria" pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), particulate matter less than or equal to 10 and 2.5 microns (PM_{10/2.5}), sulfur dioxide (SO₂) and ozone (O₃).
- 3 This current non-attainment designation applies to the eight-hour NAAQS for O₃ established by the U.S. EPA in 1997. The U.S. EPA has replaced this standard in 2008 and updated "attainment/non-attainment" designations will be made in the 2010/2011 timeframe.

monitoring data collected by DEP at various locations throughout the area.⁴ As a result of this designation and in accordance with the federal CAA, the DEP has developed a SIP which, focuses on, among others, the reduction and control of NO_x and VOC – the two primary precursors to O₃-formation.⁵

The Boston metropolitan area is also designated as a “maintenance” area for CO. This designation means that the area experienced violations of the AAQS for this pollutant in the past, but these violations have been remedied, and the former “non-attainment” area is now in “attainment.” A SIP has also been developed by DEP for CO which outlines the overall strategy and timeline for maintaining this current status.

Federal General Conformity Rule

As a means of ensuring that continual progress toward achieving and maintaining compliance with the AAQS and SIP for O₃ and CO are made, the General Conformity Rule of the Federal CAA establishes criteria (called “*de minimis*” levels) for NO_x, VOC and CO emissions.⁶ Under the General Conformity Rule, the standard approach to determining if project-related emissions exceed the *de minimis* levels is to compare total future-year emissions of the “no-build” to the “build” conditions. This difference is considered to be project-related and directly comparable to the *de minimis* levels – levels below which project-related emissions automatically conform to the SIP. For designated O₃ “non-attainment” and for CO “maintenance” areas, the prescribed *de minimis* levels are 50 tons/year for NO_x/VOCs and 100 tons/year for CO.

Logan Air Quality Initiative

At Logan Airport, Massport has voluntarily implemented an ozone management program, the Air Quality Initiative (AQI), to prevent NO_x emissions associated with the airport from exceeding 1999 emission levels.⁷ Emission sources addressed in the AQI include aircraft, auxiliary power units (APUs), ground support equipment (GSE), motor vehicles traveling on the airport’s roadway network and parking facilities (including those associated with the existing SWSA), and a variety of stationary sources (i.e., Central Heating Plant, emergency generators, snow melters, etc.). NO_x emission levels are reported annually in the Logan Airport Environmental Status and Planning Reports (ESPRs) and Environmental Data Reports (EDRs). According to the 2008 EDR, NO_x emissions have remained well below 1999 emission levels.⁸

Analysis Methodology

In accordance with the Secretary’s Certificate on the 2009 NPC, the following section provides clarification on modeling parameters and analyses for the microscale and mesoscale methodologies.



4 This ozone non-attainment area comprises 11 counties, including Barnstable, Bristol, Dukes, Essex, Middlesex, Nantucket, Norfolk, Plymouth, Suffolk, and Worcester). Logan Airport is in Suffolk County.

5 Eight-hour Ozone Attainment Demonstration for the Massachusetts Portion of the Boston-Lawrence-Worcester, Massachusetts-New Hampshire Ozone Non-attainment Area, prepared by the Massachusetts Department of Environmental Protection.

6 40CFR Part 51, Determining Conformity of General Federal Actions to State or Federal Implementation Plans, November 30, 1993.

7 Logan International Airport Air Quality Initiative (AQI), prepared by Massport, 2000. (VOC emissions are not covered under the AQI.)

8 *Boston-Logan International Airport, 2008 Environmental Data Report (EDR)*, Submitted to Executive Office of Energy and Environmental Affairs, MEPA Office, submitted by Massachusetts Port Authority Economic Planning & Development, September, 2009.

Sources of Emissions

The principle sources of air emissions currently associated with the SWSA are motor vehicles traveling to, from and moving about the SWSA. These include automobiles (i.e., rental cars/vans and their staging areas, and rental car customers), taxis, limousines, step-vans, shuttles, transit buses, and delivery trucks associated with the rental car facilities, delivery trucks associated with the airline catering businesses, and vehicles/delivery trucks/vans associated with a nearby hotel. Other, less significant, sources of emissions include back-up electrical generators, food-preparation services, underground fuel storage tanks, and limited automobile “through” traffic from the nearby neighborhoods.⁹ These types of emission sources are not expected to change substantially in the future as a consequence of the Revised SWSA Redevelopment Program.

Mesoscale (Regional) Analysis of Ozone Precursors

The Mesoscale Analysis was conducted using methods, models and emission factors approved by the U.S. EPA and DEP combined with development plans and operational data specific to the SWSA Program. The focus is on the O₃ precursors of NO_x and VOC as well as CO. The results are expressed in units of tons/year which enable direct comparison between the existing and future-year conditions, between the No-Action/No-Build and Build alternatives, and to the General Conformity Rule “de-minimis” levels. Because motor vehicles are the primary source of emissions associated with the program, they were the focus of this analysis.

Microscale Atmospheric Dispersion / Carbon Monoxide (CO) “Hot-Spot” Modeling

The Microscale Analyses for the SWSA was also conducted using methodologies recommended by the U.S. EPA and DEP and are based on project-specific development plans and operational data. This analysis predicted “ambient” (i.e., outdoor) levels of air pollutants at the project site, in the adjoining neighborhoods and adjacent to nearby roadways/intersections. The results (expressed as µg/m³) are directly comparable with the federal and state AAQS and help to determine the program’s potential impact on local air quality conditions.

The Microscale Analysis was conducted using two separate modeling methods: (i.) Atmospheric dispersion modeling for the on-site sources and (ii.) CO “hot-spot” modeling for the off-site roadway/intersections. The predicted CO and particulate matter (i.e., PM_{10/2.5}) concentrations in the vicinity of the SWSA (including the neighborhoods of East Boston and Jeffries Point) are compared to the federal and state AAQS for these pollutants.



9 Emissions from aircraft engines, aircraft auxiliary power units (APUs), ground support equipment (GSE), various other stationary sources at the airport as well as airport-related motor vehicles traveling on the local and regional roadway networks are not associated with and would not be altered as a result of the SWSA Redevelopment Program.

Motor Vehicle Emission Cold Start Emission Factors and Ultra-Fine Particulate Matter

Two issues were raised associated with the technical methodology for the air quality analysis for which additional clarification was requested, including motor vehicle engine "cold-start" emission factors and the modeling of "ultra-fine" particulate matter ($PM_{0.1}$). In both cases, supplemental information was provided to MEPA before the close of the public review of the 2008 Draft EIR/EA and is briefly explained below. A copy of this supplemental letter is included in Chapter 9, *Responses to Comments* of this Final EIR/EA.

Motor Vehicle Cold Start Emissions Factors

Following standard practice for air quality assessments involving motor vehicles, emission factors for rental cars, airport patrons accessing the airport with private automobiles, shuttle vans and buses accessing the SWSA were derived from the U.S. EPA's MOBILE6.2 emissions model. Motor vehicle operating conditions for which emission factors are produced using this program include engine "start", engine "idling" and engine "running" (e.g., moving) conditions – the latter designated for specific speeds (e.g., 25 mph, 30 mph, 35 mph). Engine start emissions include both "cold" and "hot" start conditions; where "cold start" means the start of an engine after at least 12 hours of inactivity based on the U.S. EPA Federal Test Procedure (e.g., the "controlled" test procedure by which motor vehicle engine emission factors are derived by the U.S. EPA and published in MOBILE 6.2).

As for the 2008 Draft EIR/EA air quality analysis as well as for this updated analysis, emission factors were further specified from MOBILE6.2 using DEP-recommended input parameters reflecting Massachusetts-specific motor vehicle fleet mix characteristics, ambient temperatures, vehicle registration distributions, and emission control strategies. For "cold start" emission factors, standardized MOBILE6.2 parameters (e.g. soak duration distribution (length of time parked before start and number of engine starts, by mileage accumulation rates and hour of day) were used. These input parameters approximate the designation of 43 percent of vehicle starts are "cold starts"- a reasonable assumption for a consolidated rental car facility, given that some vehicles will remain parked in a staging area and some will be operated, rented and/or moved with greater frequency.

A related technical question from the reviewing agencies about the actual MOBILE6.2 "cold start" emission factors was referred to U.S. EPA and DEP before the SWSA air quality analysis was undertaken and no changes to the model input parameters or emission factors were recommended by these agencies, and thus none were made.

Ultra-Fine Particle Matter

Currently there are no state or federal AAQS for "ultra-fine" particulate matter (or " $PM_{0.1}$ "), nor are there any EPA- or DEP-recommended modeling methods for assessing particulate matter of this size range. Therefore, this pollutant was not directly assessed as part of the 2008 Draft EIR/EA nor was it requested to be modeled as part of the Scope for this Final EIR/EA. However, emissions of "respirable" (PM_{10}) and "fine" ($PM_{2.5}$) particulate matter were modeled as part of the SWSA air quality assessment; the results of which reveal no violations of the AAQS for these two pollutants. Because $PM_{0.1}$ and $PM_{10}/PM_{2.5}$ have some distinct similarities in terms of their origins (e.g., motor vehicle exhaust) and atmospheric dispersion, similar trends would be expected for ultra-fine particles.

Importantly, the “state of the science” regarding PM_{0.1} is still relatively new and is continually emerging. Nationwide, numerous air monitoring and epidemiological studies are just recently completed or are now underway by the U.S. EPA and others in order to better understand (i.) the types of sources, (ii.) emission characteristics, and (iii.) human health effects associated with this pollutant. The principle health-related concern with PM_{0.1} is that it’s extremely small size and mass (i.e., weight) enable it to more easily infiltrate the human respiratory system and potentially serve as a carrier for other compounds. For these reasons, the current research is aimed mostly at the dispersal and chemical characteristics of PM_{0.1} in order to advance what is known about its prevalence in the human environment and the potential health risks.

With respect to motor vehicles, the studies of PM_{0.1} have thus far occurred mostly near busy highways. The results generally show that PM_{0.1} values taper off rapidly with increasing distance from the traffic source and then approach “background” concentrations 300 to 1,000 feet away [Zhu and Hinds, 2002; CARB, 2005]. From these observations, the potential health risks associated with PM_{0.1} would be expected to diminish in a commensurate manner. Unfortunately, there are no known studies of ambient (i.e., “outdoor”) PM_{0.1} values near consolidated rental car processing or parking garages. However, the reported findings for highways would also be expected to be conservatively high compared to a parking facility - given the differences in traffic volumes between the two types of facilities (i.e., highway volumes are significantly higher).

With this information in mind, combined with several new design elements associated with the Revised SWSA Redevelopment Program, the potential environmental effects of PM_{0.1} are further diminished when compared to the original plan. These design elements and their benefits include the following: (i.) elimination of the structured consolidation of commercial parking in the Garage Structure and reduced vehicle volumes; (ii.) greater distances separating the Garage Structure from adjoining land uses; (iii.) fewer parking levels and decreased building height of the Garage Structure; (iv.) expanded landscape buffer along the site perimeter; and (v.) added screened panels covering the exterior openings of the Garage Structure. Together, these new features will help to decrease the overall emission source strength of PM_{0.1} attributable to the facility, enhance the dispersal characteristics of the pollutants, and lower any potential health risks.

Updated Air Quality Analysis Results

This section presents the results of the updated air quality impact analysis conducted for the SWSA Redevelopment Program, as currently proposed (described in Chapter 1, *Proposed SWSA Redevelopment Program*). The updated analysis reflects the removal of the commercial parking component, retaining the Bus and Limousine Pools and long-term overflow commercial parking on-site, site plan modifications, and the Unified Bus System. The results demonstrate that the Program would comply with the applicable federal and state air quality standards and regulations as well as Massport’s existing air quality initiatives. Refer to Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment* for the updated GHG emissions assessment and to Chapter 6, *Construction* for the results of the air quality analysis associated with construction activities.

Mesoscale (Regional) Analysis Results

Tables 4-1 and 4-2 present the mesoscale analysis results for the 2007 Existing Condition, the 2013 and the 2018 No-Build/No-Action Conditions, and the 2013 Interim Build and 2018 Build Conditions. These results are inclusive of all the emissions associated with the SWSA Redevelopment Program and are presented for

two possible Unified Bus System fueling options: (i) Clean Diesel Hybrid and (ii) Compressed Natural Gas (CNG).

Table 4-1

Mesoscale Analysis Results (tons/year) – Unified Bus Clean Diesel Hybrid Option

Pollutant	2007 Existing	2013			2018		
		No-Build/No-Action	Build	Difference	No-Build/No-Action	Build	Difference
NO _x	71.4	36.9	14.7	-22.2	19.9	9.8	-10.1
VOCs	16.4	9.7	8.9	-0.8	7.4	6.0	-1.4
<i>De minimis Levels</i>			50			50	
CO	225	177	159	-18	182	166	-16
<i>De minimis Levels</i>			100			100	

NO_x – nitrogen oxides, VOCs – volatile organic compounds; CO – carbon monoxide

Table 4-2

Mesoscale Analysis Results (tons/year) – Unified Bus Compressed Natural Gas (CNG) Option

Pollutant	2007 Existing	2013			2018		
		No-Build/No-Action	Build	Difference	No-Build/No-Action	Build	Difference
NO _x	71.4	36.9	22.4	-14.5	19.9	18.9	-1.0
VOCs	16.4	9.7	9.7	0.0	7.4	6.8	-0.6
<i>De minimis Levels</i>			50			50	
CO	225	177	161	-16	182	168	-14
<i>De minimis Levels</i>			100			100	

NO_x – nitrogen oxides, VOCs – volatile organic compounds; CO – carbon monoxide

As shown, when compared to 2007 Existing Condition, total emissions of NO_x and CO associated with the future No-Build/No-Action and Build Conditions are predicted to decrease in 2013 and 2018, and VOCs would stay the same in 2013 and decrease slightly in 2018 (under either the Unified Bus System Clean Diesel Hybrid or CNG options for the future Build Conditions). Under the future No-Build/No-Action Conditions, it is assumed that the vehicle fleet emission characteristics would improve due to the EPA's FMVES program (reflected in the MOBILE6.2 model). However, under the future Build Conditions, the reductions are also a result of the efficiencies associated with the SWSA Redevelopment Program, including reductions in VMT associated with the rental cars and the Unified Bus System.

For example, when comparing the 2013 Interim Build and 2018 Build Conditions to the 2013 and 2018 No-Build/No-Action Conditions under the Unified Bus System Clean Diesel Hybrid Option:

- NO_x emissions are expected to decrease by 22.2 to 10.1 tons, or by 60 to 51 percent, in 2013 and 2018;
- VOCs emissions are expected to decrease by 0.8 to 1.4 tons, or by 8 to 19 percent; and
- CO emissions are expected to decrease by 18 to 16 tons, or by 10 to 9 percent, respectively.

Similarly, for the Unified Bus System CNG Option:

- NO_x emissions are expected to decrease by 14.5 to 0.9 tons, or by 39 to 5 percent;
- VOCs emissions are expected to decrease by 0.0 to 0.6 tons, or by 1 to 7 percent; and
- CO emissions are expected to decrease by 16 to 14 tons, or by 9 to 8 percent, respectively.

In all cases, the net differences in total emissions between the Build and No Build/No Action Conditions are well within the applicable *de-minimis* levels of the federal CAA General Conformity Rule and therefore automatically conform to the SIP for these pollutants (see Chapter 8, *Federal Requirements*). Temporary construction-related emissions are assessed under the federal CAA General Conformity Rule (as presented in Chapter 6, *Construction*).

Microscale Atmospheric Dispersion and CO “Hot-Spot” Modeling Results

Using microscale atmospheric dispersion modeling, ambient (i.e., outdoor) concentrations of CO and PM were predicted at sensitive receptors (i.e., parks, schools, sporting facilities, residential areas, etc.) located within 0.3 kilometers (0.25 miles or 1,000 feet) of the SWSA site. These receptor locations were obtained from an in-the-field survey and scale-drawings of the SWSA under current and future-year conditions, both with and without the Redevelopment Program. For more complete coverage, a grid of 97 receptors spaced approximately 300 feet apart was also included in the dispersion model. As shown in Figures 4-1 and 4-2, approximately 150 individual receptors were analyzed.

The results of the microscale dispersion modeling are summarized in Table 4-3 and represent the highest predicted levels of CO and PM_{10/2.5} at all of the receptors analyzed. For comparative purposes, the AAQS for these pollutants are also provided.

Table 4-3**Microscale Atmospheric Dispersion Modeling Results ($\mu\text{g}/\text{m}^3$)¹
Highest Predicted Values – Unified Bus Shuttle Program Clean Diesel Hybrid Option²**

Pollutant	Averaging Time	AAQS	2007	2013		2018	
			Existing	No-Build/ No-Action	Build	No-Build/ No-Action	Build
CO	1-hour	40,000	7,952 (14A)	7,529 (14A)	7,437 (14A)	7,350 (14A)	7,102 (14A)
	8-hour	10,000	3,475(12)	3,381 (13)	3,213 (14A)	3,378 (G92)	3,237 (12)
PM ₁₀	24-hour	150	52.9(12)	52.2 (11)	51.7 (12)	51.9 (11)	51.7 (25A)
PM _{2.5}	24-hour	35	34.0 (8)	33.5 (12)	33.2 (12)	33.3 (12)	33.2 (12)
	Annual	15	12.7 (8)	12.6 (12)	12.6 (25A)	12.6 (12)	12.6 (25A)

CO Carbon monoxide

PM_{10/2.5} Particulate matter equal to, or less than 10 and 2.5 microns in size, respectively.

AAQS Ambient Air Quality Standards

R(xx) Refers to receptor location

1 As required by DEP, the reported values represent the highest predicted levels at all of the receptors analyzed. The highest receptor is shown in parentheses. Because the layout of the SWSA is different under the 2013 and 2018 No-Build/No-Action and Build Conditions, the highest predicted levels do not always occur at the same receptor. The results for each receptor are provided in Appendix E. Figure 4.1 and 4.2 display the receptor locations and Table E-2 describes the receptor locations.

2 The results for the Unified Bus Shuttle Program CNG Option are very similar to those shown in this table for the Clean Diesel Hybrid Option which is listed separately in Appendix E.

As shown, CO and PM_{10/2.5} levels in the vicinity of the SWSA (including the neighborhoods of East Boston, Jeffries Point, Harborwalk, and at the CSC curbside) are expected to remain well below the AAQS for these pollutants. Under the 2013 Interim Build and 2018 Build Conditions, CO concentrations are shown be 18 and 32 percent of the AAQS for the 1-hour and 8-hour, time-periods, respectively. PM₁₀ levels are 34 percent of the AAQS and PM_{2.5} concentrations are 95 and 84 percent of the 24-hour and annual AAQS. In both cases, PM_{10/2.5} concentrations are heavily influenced by the background concentrations assumed in the analysis.

The results of the CO “hot-spot” modeling analysis are summarized in Table 4-4 and represent the highest predicted levels of CO at all of the intersections and receptors analyzed.¹⁰ Again, appropriate “background” levels of CO were added to the AAQS for these pollutants.

Table 4-4**CO “Hot-Spot” Modeling Results ($\mu\text{g}/\text{m}^3$)¹**

Pollutant	Averaging Time	AAQS	2007	2013		2018	
			Existing	No-Build/ No-Action	Build	No-Build/ No-Action	Build
CO	1-hour	40,000	6,800	5,100	4,700	5,100	4,900
	8-hour	10,000	4,000	3,100	2,800	3,100	2,900

CO carbon monoxide,

AAQS Ambient Air Quality Standards

1 The reported values represent the highest predicted levels at all of the intersections and receptors analyzed. The results for each intersection and receptor sets are provided in Appendix E.

As shown, under the 2013 Interim Build and 2018 Build Conditions, the highest predicted 1- and 8-hour CO levels in the vicinity of the Revised SWSA Redevelopment Program roadways/intersections are predicted to



10 Appendix E contains the results for all of the intersections and receptors analyzed for the CO “hot-spot” analysis.

be 4,900 and 2,900 $\mu\text{g}/\text{m}^3$, respectively. These levels are expected to occur near the Harborside Drive/Porter Street intersection and are well within the AAQS for this pollutant.

Pedestrian-Level Wind Analysis

The proposed Garage Structure is not expected to have a significant effect on pedestrian-level winds on or near the SWSA or in the adjoining neighborhoods. The only predicted exception to this is near the corners of the buildings under high wind speed conditions. Planned mitigation measures, in the form of dense landscaping in these areas will help minimize these potential effects. Evergreen trees and native shrubs will be planted at the base of the garage building and concentrated on corners and edges where the garage is accessible to the public. Most of these areas are not pedestrian, but vehicular access points where users would be shielded while in their vehicles. Where pedestrians may be impacted such as on the drop-off or pick-up curbs at the CSC, the building has been designed to include barriers at the building's entrance points. This will provide a wind break for users and will help to keep harsh winds from entering the CSC. Workers in the QTA area will be shielded from winds by an extended overhead canopy and (where required) an additional end wall to provide protection from inclement weather.



Consideration of Ultra-Fine Particulate Matter and Public Health

In accordance with the Secretary's Certificate on the 2009 NPC, this section provides an overview of $\text{PM}_{0.1}$ (including, how it reacts in the environment and potential human health effects), describes the design changes made in an effort to address community concerns, and discusses the regulatory context of $\text{PM}_{0.1}$. This section also discusses public health studies related to operations at Logan and clarifies the requirements of the Transportation Reform Act as it relates to public health studies on transportation-related pollution sources in the Commonwealth.

Ultra-Fine Particle Matter

As discussed above, there are currently no state or federal AAQS for "ultra-fine" particulate matter (or " $\text{PM}_{0.1}$ "), nor are there any EPA- or DEP-recommended modeling methods for assessing particulate matter of this size range. Therefore, this pollutant was not directly assessed as part of the 2008 Draft EIR/EA nor was it requested to be modeled as part of the Scope for this Final EIR/EA. However, emissions of "respirable" (PM_{10}) and "fine" ($\text{PM}_{2.5}$) particulate matter were modeled as part of the SWSA air quality assessment; the results of which reveal no violations of the AAQS for these two pollutants. Because $\text{PM}_{0.1}$ and $\text{PM}_{10}/\text{PM}_{2.5}$ have some distinct similarities in terms of their origins (e.g., motor vehicle exhaust) and atmospheric dispersion, similar trends would be expected for ultra-fine particles.

Again, the "state of the science" regarding $\text{PM}_{0.1}$ is still relatively new and is continually emerging. Nationwide, numerous air monitoring and epidemiological studies are just recently completed or are now underway by the U.S. EPA and others in order to better understand (i.) the types of sources, (ii.) emission characteristics, and (iii.) human health effects associated with this pollutant. The principle health-related concern with $\text{PM}_{0.1}$ is that its extremely small size and mass (i.e., weight) enable it to more easily infiltrate the human respiratory system and potentially serve as a carrier for other compounds. For these reasons, the

current research is aimed mostly at the dispersal and chemical characteristics of $PM_{0.1}$ in order to advance what is known about its prevalence in the human environment and the potential health/risk relationships.

As previously reported, the studies of $PM_{0.1}$ from motor vehicles have thus far occurred mostly near busy highways. The results generally show that $PM_{0.1}$ values taper off rapidly with increasing distance from the traffic source and then approach “background” concentrations 300 to 1,000 feet away. From these observations, the potential health risks associated with $PM_{0.1}$ would be expected to diminish in a similar manner. There are no known studies of ambient (i.e., “outdoor”) $PM_{0.1}$ values near consolidated rental car processing or parking garages. However, the reported findings for highways discussed above would also be expected to be conservatively high compared to a parking facility - given the differences in traffic volumes between the two types of facilities (i.e., highway volumes are significantly higher).

Project Design Changes

As part of the Revised SWSA Redevelopment Program, several significant design changes are made to the overall layout, function and construction of the project that will further diminish the potential environmental effects of $PM_{0.1}$ (and other emissions) when compared to the original plan. These design elements and their benefits include the following:

- Increased distances separating the Garage Structure from adjoining land uses – Enables better dispersion, added dilution and more deposition of $PM_{0.1}$ emissions;
- Expanded landscape buffer along the site perimeter – Serves as a barrier to $PM_{0.1}$ transport from the garage and QTAs and further segregates the emission source(s) from other nearby land uses.
- Added screened panels covering the exterior openings of the Garage Structure - Serves as a barrier to $PM_{0.1}$ transport out of the facility while retaining the beneficial effects of natural ventilation.

Together, these new features will help to decrease the overall emission source strength of $PM_{0.1}$ attributable to the facility, enhance the dispersal characteristics of the pollutants, and lower the potential health risks to nearby communities.

Public Health Studies

The Massachusetts Department of Health (MDH) is undertaking a combined air quality modeling and epidemiological study of East Boston communities that adjoin the airport. This study comprises atmospheric dispersion modeling of airport-related emissions as well as data collected in conjunction with telephone interviews regarding dwelling type, occupation, lifestyle, and other health-related factors. The completion and publication of this study is reportedly uncertain due to budgetary restrictions.

In addition, Massport is currently undertaking the *Logan Air Quality Monitoring Study* in accordance with the MEPA Certificate for the Logan Airside Improvement Project (LAIP). Commencing in September 2007, this study involves the sampling, collection and analyses of particulate matter and a wide array of hazardous air pollutants (HAPs), meteorological data (e.g., wind speed and direction), airport operations and motor vehicle traffic volumes in the communities that adjoin the airport. The first phase is completed and the second phase of the study will resume in 2010. All of the data and information collected during the course of this study will be provided to MDH and DEP for their review and assessment.

Transportation Reform Act

The Transportation Reform Act is state legislation that outlines updated approaches for undertaking transportation-related development projects to further ensure that public health and safety are not compromised. Specifically, the statute aims to investigate the potential epidemiological effects of fine ($PM_{2.5}$) and ultrafine ($PM_{0.1}$) particulate matter from mobile sources. Agencies involved include the DEP, DOT, and the Boston Area MPO. Their final draft findings and recommendations have not yet been completed.



Evaluation of an Enclosed Garage Structure

From the initial stages of conceptual design, a critical goal and environmental performance criterion for the Parking Garage design has been to maintain a building code classification of an 'open parking garage' to allow for daylight and natural ventilation, thereby, avoiding the need for more lighting and substantial ventilation systems, which would result in increased energy usage as well as higher project costs. Increased energy consumption, in turn, would result in greater stationary source Greenhouse Gas (GHG) emissions. Also, an 'open parking garage' is a critical design assumption in order to meet the requirements of the Massachusetts Leadership in Energy and Environmental Design (LEED) "Plus" program (a minimum energy reduction of 20 percent), to strive to achieve a LEED Silver rating, and to comply with the MEPA Greenhouse Gas Emissions Policy and Protocol.

Consequently, Massport has been working to balance a variety of environmental and energy objectives in the project's design. As described in the following paragraphs, Massport proposes a reasonable, effective, and practical design approach to simultaneously achieving air quality, sustainability, and energy conservation goals.

In response to community feedback, as presented in the 2009 NPC, the commercial parking component of the Garage Structure has been eliminated, thus reducing numbers of vehicles accessing and circulating the SWSA and reducing the Garage Structure height by one level. Additionally, the Garage Structure has been shifted further away from the airport property edge and, therefore, the community for a total set back of approximately 80 feet from the nearest home on the south side and a range of approximately 350 feet to over 500 feet from the airport property line on the west side. Also, additional landscape buffer width along the south property line adjacent to the residences along Maverick Street was added.

In response to the Secretary's Certificate on the 2009 NPC, Massport directed the design team to consider both fully enclosing the Garage Structure and enclosing two sides (the west and south sides facing the community). Both of these options would require substantial mechanical ventilation, an extensive sprinkler system and a higher rating of fire-resistive construction, thus increasing stationary source GHG emissions. Additionally, due to the deep footprint of the Garage Structure, a substantial ventilation system, including high-speed fans, would be required, which could generate high amounts of noise that could negatively affect the community.

To minimize impact on the adjacent community and continue to meet the sustainable and economic goals of the Program through the avoidance of mechanical ventilation of the Garage Structure, Massport has made significant changes to the design of the Garage Structure, including the elimination of commercial parking

within the Garage Structure, reduction of the height of the structure, shifting of the Garage Structure away from the community and addition of landscape buffer area.

Importantly, Massport is proposing extensive façade treatments (partial enclosure) of the sides of the Garage Structure that face the community (the southern and western facades). The proposed architectural façade treatments of the Garage Structure have been re-designed to provide enhanced screening of air emissions, noise, and light spill impacts on the community. The proposed façade treatments provide the maximum enclosure while providing the required natural ventilation for an ‘open parking garage,’ as defined by the building code. In this way, Massport is deploying façade treatments that would provide the most benefit to the adjacent community.

The south façade of the Garage Structure, that closest to the community, is proposed to be approximately 80 percent enclosed, allowing openings needed for ventilation and borrowed daylight. This is expected to provide for reduced impacts to those residences along Maverick Street and residence further south. The west façade of the Garage Structure is located hundreds of feet away from the community to the west, and is separated by QTAs 1 and 2 as well as extensive landscaping as a part of the Phase 2 Airport Edge Buffer (described in Chapter 1, *Proposed SWSA Redevelopment Program*). The architectural treatment of west façade of the Garage Structure is, on average, approximately 50 percent enclosed, with a more heavy concentration of treatment in the form of solid panels and architectural louvers that screen views into the Garage Structure at the southwest corner, again, that portion of the Garage Structure closest to the community.

In conclusion, Massport has balanced a variety of goals while ensuring that the overall impact of the Garage Structure has been minimized.



Proposed Beneficial Measures and Associated Emission Reduction Benefits

The SWSA Redevelopment Program features a common shuttle bus system for the ConRAC that will transport facility users to and from the airport terminal complex. This fleet of new buses will be more fuel-efficient (an estimated annual fuel savings of around 400,000 gallons depending on the Unified Bus System fuel option) and lower-emitting and will replace the existing fleet of diesel buses independently operated by each of the rental car companies, and VMTs would be reduced due to the consolidation of the individual rental car shuttle bus fleets and the associated routes to the terminals.

The projected emission reductions from the Unified Bus System (Clean Diesel Hybrid Option) operations are 18.1 and 8.9 tons per year for NO_x, 4.1 and 2.1 tons per year for CO, and 0.9 and 0.8 tons per year for VOC in 2013 and 2018, respectively. These emission reductions are a direct result of a reduction in expected fuel usage (approximately 410,000 gallons per year by 2018 – a reduction of 5,000 tons per year of CO_{2e} emissions).

Similarly, the projected emission reductions from the Unified Bus System (CNG Option) operations are 12.0 and 1.8 tons per year for NO_x, 2.8 and 0.6 tons per year for CO, and 0.4 and 0.2 tons per year for VOC in 2013 and 2018, respectively. Again, these emission reductions are a direct result of a reduction in expected fuel usage (approximately 383,000 gallons per year by 2018 – a reduction of approximately 4,700 tons per year of CO_{2e} emissions).

The SWSA Redevelopment Program will include a number of measures that are beneficial to the air quality environment, as summarized below and also in Chapter 7, *Beneficial Measures/Proposed Section 61 Findings*. As mentioned above, Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment* of this Final EIR/EA provides an updated discussion on GHG emissions, including an expanded TDM Plan and the quantification of projected GHG emissions reductions from this proposed plan.

The proposed measures that would have air quality benefits include:

- A combined rental car shuttle bus fleet, which would reduce VMT between the ConRAC and airport main terminals and helps reduce terminal curbside congestion and the associated fuel use;
- The replacement and modernization of the existing rental car shuttle bus fleet with more fuel-efficient and lower emitting vehicles will reduce emissions;
- Improved access to mass transit at MBTA Blue Line Airport Station and the Silver Line stop at Terminal A for Program employees and customers, which as an alternative form of transportation, is expected to reduce VMT and, therefore, air pollution associated with single-occupancy vehicles;
- On- and off-site roadway/intersection roadway improvements and traffic signal upgrades to primary access/egress routes will improve traffic flow, reduce stop-and-go driving and reduce fuel use;
- Dedicated service road and loop at the ConRAC for efficient pick-up/drop-off to terminals and other ground transportation facilities;
- Pedestrian and bicycle facilities/access to the SWSA, which is as an alternative form of transportation, is expected to reduce VMT and, therefore, air pollution associated with single-occupancy vehicles;
- Logan Airport Employee Transportation Management Association (TMA) membership by SWSA employees provides alternative means for accessing the SWSA;
- Posting of 'no idling' signs in all loading and drop-off areas within the SWSA, including the Taxi Pool in accordance with and active enforcement of the Massachusetts General Law (MGL), Chapter 90, Section 16A, 310 Code of Massachusetts Regulation (CMR), Section 7.11 and MGL, Chapter 111, Sections 142A – 142M (The Massachusetts Anti-Idling Law). (Anti-idling will also be included in tenant audits.);
- Requiring construction contractors to install emission control devices on certain equipment types (i.e., front-end loaders, backhoes, excavators, cranes, and air compressors), in support of the DEP Clean Construction Equipment Initiative and Clean Air Construction Initiative.
- Increased distances separating the Garage Structure from adjoining land uses enables better dispersion, added dilution and more deposition of $PM_{0.1}$ emissions;
- Expanded landscape buffer along the site perimeter serves as a barrier to $PM_{0.1}$ transport from the garage and QTAs and further segregates the emission source(s) from other nearby land uses.
- Added screened panels covering the exterior openings of the Garage Structure serves as a barrier to $PM_{0.1}$ transport out of the facility while retaining the beneficial effects of natural ventilation.

Noise

The following section summarizes the methodology, noise criteria and findings of the 2008 Draft EIR/EA noise assessment for the previous program and presents an updated qualitative noise impact assessment for the current Program, as described in Chapter 1, *Proposed SWSWA Redevelopment Program*. A discussion of potential noise impacts related to temporary construction activities is provided in Chapter 6, *Construction*.

As with the 2008 Draft EIR/EA program, there are no significant noise impacts associated with the Program as reviewed and presented in this Final EIR/EA. The following summarizes the findings of the noise assessment:

- The Program would not result in significant noise impacts to the surrounding community.
 - Day-night average noise levels (DNL) from SWSA on-site sources under the 2018 Build Condition would be lower throughout the surrounding community than under the 2018 No-Build/No-Action Condition.
 - Overall combined DNL noise levels from both on-site and off-site sources for the 2018 Build Condition would be equal to or lower than the noise levels under the 2018 No-Build Condition throughout the community.
- Based on the modification to the Garage Structure (location, reduced height and design), sound paths from the façade to homes are farther in distance compared to the location of the Garage Structure under the 2008 Draft EIR/EA. As a result, previously expected increases of noise levels from single events, such as car door slams and alarms, from the upper levels are reduced when compared to the 2008 Draft EIR/EA.
- Traffic noise associated with the rental car shuttle bus fleets would be reduced with the Unified Bus System (because individual buses for each rental car company would be consolidated into a common shuttle system) and because the Unified Bus System would operate farther away from the airport edge and community on the opposite side (airside) of the Garage Structure compared to the 2007 Existing and future No-Build/No-Action Conditions.
- The Bus and Limousine Pools currently exist at the SWSA. Noise levels associated with the Bus and Limousine Pools under the 2018 Build Condition would be less than the 2007 Existing and 2018 No-Build/No-Action Conditions due to the greater separation from residences and proposed noise barriers that would not be present otherwise.
- Noise abatement elements have been incorporated into design and site landscaping; improvements to QTA facilities ensure that potential noise impacts are mitigated.

Summary of the 2008 Draft EIR/EA Noise Impact Assessment

The 2008 Draft EIR/EA (specifically, Chapter 6, *Noise*) presented a comprehensive noise analysis which included a description of the noise assessment criteria and the noise modeling approach, presented the existing noise conditions, including the results of an existing noise measurement program, and presented a projection of future noise conditions, including the characteristics of the future sources and the computed

existing and future sound levels. The noise impact assessment compared baseline (existing), future no-build and future build conditions and proposed noise mitigation for impacts. Refer to Figures 4.3 (Noise Sensitive Receptor Locations) and 4.4 (Noise Measurement Locations).

The noise impact analysis for the June 2008 Draft EIR/EA addressed all pertinent noise sources, including:

- Vehicular traffic;
- Rental car operations;
- Airport ground operations; and
- Airport flight operations.

The 2008 Draft EIR/EA noise analysis evaluated two noise assessment metrics and associated criteria. One was the cumulative noise exposure metric used by the FAA for noise assessments around airports (the Day-Night noise Level, or DNL). The other metric addressed maximum noise levels from single events that may interfere with everyday activities such as speech and sleep.

2008 Draft EIR/EA Key Assumptions

The following are the key assumptions based on the previously proposed SWSA Redevelopment Program:

- The SWSA Redevelopment Program would result in the relocation of several existing noise sources away from the adjoining neighborhoods (the Bus and Limousine Pools off-site to the North Service Area);
- The number of shuttle buses serving the facility would be reduced by approximately half due to the Common Shuttle Bus system, which would replace the individual rental car company buses; and
- Common Shuttle Bus traffic would be relocated away from the airport property edge and the community to a shielded location on the opposite side of the parking structure and improved traffic-flow patterns for the shuttle buses would reduce or eliminate occurrences of shuttle bus back-up alarms.

2008 Draft EIR/EA Key Findings

The following is a summary of the key findings from the 2008 Draft EIR/EA noise analysis:

- There are no significant noise impacts associated with the previously proposed SWSA Redevelopment program.
- The SWSA Redevelopment Program also would result in the relocation of several existing noise sources away from the adjoining neighborhoods. The relocation of existing Bus and Limousine Pools off-site to the North Service Area would eliminate the current use of buses on Tomahawk Drive/Hotel Drive Extension and Jeffries Street.
- The number of shuttle buses serving the facility would be reduced because individual buses for each rental car company would be consolidated into the Common Shuttle Bus system.
- Common Shuttle Bus traffic would be relocated farther from the airport property edge and the community to a shielded location on the opposite side of the parking structure and improved traffic-

flow patterns for the shuttle buses would reduce or eliminate occurrences of shuttle bus back-up alarms.

- The new QTAs will have several design elements that reduce noise emissions. Blowers used to dry cars after washing will be eliminated, vacuum blowers that create suction for vacuuming will be enclosed, and outdoor loudspeaker announcements will be eliminated.
- A system of noise abatement walls is proposed to be strategically located at many locations around the perimeter of the SWSA site where noise-sensitive land uses are near the site property boundary. These will serve to not only reduce noise levels but also to provide visual screening and privacy in the community. Refer to Figure 4.5 in the DRAFT EIR/EA (Proposed Site Noise Attenuation and Visual Buffer Measures).
- Noise reduction strategies by way of earth berms were incorporated into the project landscaping along the Harborwalk and Geneva Street.
- To minimize potential increased audible effects at the upper floors of homes along Maverick Street from single events such as car door slams and alarms in the proposed ConRAC garage, acoustical treatment of the south façade of the Garage Structure upper floors was assumed in the design.



Updated Program-Related Noise Assessment

In accordance with the Secretary's Certificate on the NPC, this section presents an updated assessment of the potential noise effects associated with the revised Program.

Updated Noise Assessment Approach

The nature of the qualitative assessment for the central and western portions of the study area involved the examination of changes to the revised program relative to the program that was evaluated in detail in the 2008 Draft EIR/EA. In particular, the Final EIR/EA noise assessment includes the examination of increased source-to-receiver distances, reduction of traffic volumes, the relocation of noise sources such as the Garage Structure and the QTAs away from residential areas, and the re-orientation of directional noise sources such as the QTAs west of the Garage Structure.

At the eastern end of the study area, a limited quantitative assessment was conducted to determine the relative differences of eliminating the QTAs adjacent to the Harborwalk and relocating the Bus and Limousine Pools back to the SWSA. This area was evaluated to determine if bus/limousine traffic along Tomahawk Drive might cause any significant increase in overall noise levels compared to the future full-build condition of the 2008 Draft EIR/EA. For the quantitative evaluation, the FHWA Traffic Noise Model was used to model the 2018 Build traffic on Tomahawk Drive and in the Bus and Limousine Pools in the same way the modeling was conducted for the 2008 Draft EIR/EA. Also the fixed on-site noise sources in that area were also modeled, including the QTA just east of the Garage Structure and west of Jeffries Street and idling buses, in compliance with the state regulations. The revised noise levels were incorporated in the computation of total DNL and maximum single-event noise levels for the 2018 Build Condition.

Updated Noise Impact Assessment Results and Proposed Beneficial Measures

There are no significant noise impacts associated with the Program. The revised and reduced SWSA Redevelopment Program incorporates a number of changes that are expected to result in lower noise levels than the 2007 Existing and future No-Build/No-Action Conditions, in some cases, and that were projected for the 2008 Draft EIR/EA. The changes and their expected noise-related benefits are discussed in the sections below.

Garage Structure

The Garage Structure has been shifted away from the residential area along the eastern end of Maverick Street, including those opposite the existing noise barrier. As a result of the modifications to the location of the Garage Structure, sound paths from the façades to nearby homes are substantially farther when compared to the proposed location of the Garage Structure in the 2008 Draft EIR/EA. For example, the western-most homes on Maverick Street (those homes between Jeffries Street and Aramon Street that would have been opposite the closest part of the previously proposed Phase II/Full Build Garage Structure (L-shaped) to the east are about 2.3 times farther away from the Garage Structure. Homes at the corner of Maverick and Jeffries street at the very eastern end of the previously proposed L-shape Garage Structure are about 5.7 times farther away. As a result, noise levels at the homes from events from such as car door slams and alarms would be reduced by between approximately seven and 15 decibels (depending on the distance from the homes to the Garage) when compared to the 2008 Draft EIR/EA projected noise levels. Also, the paths and distances from the currently proposed Garage Structure are now comparable to those from the existing long-term overflow commercial surface parking lot, which is completely open. As a result, noise levels from noise events within the Garage Structure would not be expected to increase noticeably under the future Build Conditions relative to the Existing and No-Build/No-Alternative Conditions. Therefore, acoustical treatments for the Garage Structure (either interior or on the façades) are no longer necessary to achieve a 10-decibel reduction, as outlined in the 2008 Draft EIR/EA. As described further in Chapter 1, *Proposed SWSA Redevelopment Program*, façade treatments/screening is proposed for the southern and western façades, or those sides of the Garage Structure that face the community.

QTA Facilities

Currently, each rental car company within the SWSA has its own maintenance and car washing facilities (QTAs) either on-site or off-airport where the rental cars are shuttled resulting in increased traffic volumes. Four QTA facilities will be located on either side of the Garage Structure between Wellington Street and Jeffries Street as part of the Program so that all light maintenance and car washing activities would remain on-site/airport (Figure 1.4).

Three QTA facilities proposed at the western end of the SWSA have been relocated and rotated compared to those evaluated in the 2008 Draft EIR/EA. The relocation places them farther from the nearest residential areas and they are rotated by 90 degrees, so that the entrances and exits will face north/south away from the nearest residential areas (instead of east/west, as originally proposed). Both of these site design changes would serve to reduce noise levels from the QTA activities heard at the homes nearest the SWSA along Geneva Street.

The one QTA located just east of the Garage Structure and west of Jeffries Street, which was originally proposed east of Jeffries Street, is orientated east-west and will be situated behind the existing 18-foot high

noise barrier along Maverick Street. This relocation greatly reduces projected noise levels from the QTA activities to the community at the eastern end of the study area and along the Harborwalk.

The QTAs will continue to incorporate substantial improvements that would result in reduced noise levels relative to the existing facilities. Improvements to the QTAs include the elimination of outdoor loudspeakers, elimination of car drying blowers through state-of-the-art equipment, enclosed vacuum compressors, and incorporation of solid walls/fences designed to buffer/reduce noise from rental car vehicle maintenance activities (including car washing and vehicle movements) on the neighboring residential community.

Bus and Limousine Pools

The Bus and Limousine Pools currently exist within the SWSA east of Jeffries Street (Figure 1.3). As part of the Program, the Bus and Limousine Pools will be retained and expanded to the west, but would remain on the east side of Jeffries Street (Figure 1.4). Under the 2013 Interim Build Condition, the Bus and Limousine Pools will be relocated temporarily to the NSA during construction and would then be relocated back to the SWSA upon completion of the ConRAC facility. This is a program change from the 2008 Draft EIR/EA, which included the Bus and Limousine Pools permanently located in the NSA and showed QTA facilities east of Jeffries Street.

In accordance with the Secretary's Certificate on the NPC, the noise assessment has been updated. Limited quantitative analysis of noise levels along the Harborwalk and at the eastern end of the residential community near Jeffries and Maverick Streets were computed. The SWSA on-site noise sources evaluated included traffic on Tomahawk Drive, the Bus and Limousine Pools activities, and the proposed QTA west of Jeffries St (Figure 1.4). The analysis demonstrated that the 2018 Build Condition DNL noise levels from these on-site noise sources would be lower by two to 12 decibels than the 2018 No-Build/No-Action Condition and one to four decibels lower than the previous 2008 Draft EIR/EA build condition. The only location where an additional noise source was projected when compared to the 2008 Draft EIR/EA full build condition was in the eastern portion of the Harborwalk, opposite the new entrance to the Bus and Limousine Pools along Tomahawk Drive. There, bus arrivals, considered in isolation, are projected to cause a two decibel increase in noise; however, the projected 14-decibel reduction in noise from the previously proposed QTA activities at that location offsets this traffic noise increase, resulting in a net decrease of one decibel.

A solid wall/fence with landscaping is proposed on the south edge of the Bus and Limousine Pools (as previously proposed to buffer the QTAs east of Jeffries Street) to block noise and light emissions coming from as well as screen views of the Bus and Limousine Pools. The wall and landscaping are not present under the 2007 Existing Condition nor is it proposed under the future No-Build/No-Action Conditions.

SWSA Redevelopment Program Traffic

In general, future on-site traffic noise levels would be lower under the future Build Conditions when compared to the 2007 Existing and future No-Build/No-Action Conditions. As presented in Chapter 3, *Surface Transportation*, the consolidation of rental car operations combined with the proposed ramp, roadway and intersection improvements would result in lower traffic volumes (peak hour traffic and daily vehicle-miles-traveled [VMT] totals) than the future No-Build/No-Action Conditions. Additionally, with the consolidation of the rental car shuttle bus fleets into the Unified Bus System, the projected traffic volumes entering and leaving the SWSA (VMT) under the future Build Conditions would be approximately 2 percent

less than the traffic volumes under the future No-Build/No-Action Conditions. Furthermore, traffic noise associated with the rental car shuttle bus fleets would be reduced with the Unified Bus System and because the Unified Bus System will operate farther away from the airport edge and community on the opposite side (airside) of the Garage Structure as compared to the 2007 Existing and future No-Build/No-Action Conditions.

The proposed Unified Bus System routes introduce slight modifications to airport roadways along the athletic fields of Memorial Park. A landscape buffer will be designed into the new, at-grade roadway to run along the athletic fields in order to reduce any potential noise and/or visual effects.

Taxi Pool

The Taxi Pool currently exists within the SWSA southeast of Porter Street along Harborside Drive (Figure 1.3). As part of the Program, the Taxi Pool will be retained and relocated to north of Porter Street (Figure 1.4). Under the 2013 Interim Build Condition, the Taxi Pool will be relocated temporarily to Lot B along Harborside Drive during construction and would then be relocated back to the SWSA upon completion of the ConRAC facility.

Noise levels from the proposed Taxi Pool are not projected to increase under the future Build Conditions when compared to the 2007 Existing or No-Build/No-Action Conditions. The proposed administrative building has been relocated to the western edge of the Taxi Pool and reconfigured to run along the property edge to provide a noise and visual buffer to the adjacent recreation area/ball field (Figure 1.4).

Site Noise Reduction Measures

The site noise reduction measures for the SWSA property edges, including solid fences/walls, gateway signs/walls, and landscaped berms that were previously proposed in the 2008 Draft EIR/EA to shield the adjacent community from noise continue to be included in the Final EIR/EA Program.

5

Drainage and Wastewater

Introduction

This chapter describes the updated proposed site drainage conditions for the SWSA Redevelopment Program. As with the Program presented in the 2008 Draft EIR/EA, there would be no significant impacts to surrounding natural resources due to stormwater runoff from the SWSA or due to wastewater generation. The Program incorporates a number of changes that are expected to result in benefits relating to drainage and wastewater generation.

This chapter also provides supplemental information that addresses several specific issues raised in the Secretary's Certificate on the 2009 NPC issued December 23, 2009. In particular, additional information and clarification was requested on the following stormwater- and wastewater-related issues:

- Evaluate the runoff rate using the TR20/TR55 method and the (as described in the Massachusetts Department of Environmental Protection's (DEP) comment letter on the 2008 Draft EIR/EA, dated September 26, 2008);
- Develop the flow model as required by the NPDES Permit for Outfalls 001, 002 and 004;
- Demonstrate a greater commitment to provide stormwater recharge;
- Demonstrate that the proposed stormwater management plan would comply with DEP's Standards No. 5 and No. 6 by treating one inch of runoff;
- Provide a revised analysis of the wastewater flow (based on DEP's comment letter on the 2009 NPC dated December 14, 2009) to verify whether a certification or a Sewer Connection/Extension permit is required for the Program; and
- Identify a plan for Infiltration and Inflow (I/I) removal within the sewer system, as required.

Massport's primary water quality goal is to prevent or minimize pollutant discharges, thus limiting adverse impacts associated with airport activities. Massport employs several protection programs to promote awareness of Massport and tenant activities that may affect surface and groundwater quality, including implementing Best Management Practices (BMPs) for pollution prevention by Massport and its tenants.

Massport's approach to environmental management and compliance is a primary element of Logan Airport's sustainability commitment. Through monitoring and documentation, environmental performance is assessed, allowing policies and programs to be developed, implemented, and evaluated. Massport works closely with all of its departments and tenants to ensure compliance with applicable state and federal environmental laws and regulations, and to promote appropriate environmental practices through pollution prevention and remediation measures.

Key Findings and Benefits

Key findings and benefits related to stormwater drainage include:

- There are no state-regulated wetland resources areas present within the SWSA site boundaries; however, a small portion of the SWSA is within the 100-foot buffer zone of Coastal Bank (Boston Harbor).
- According to the *Massachusetts Natural Heritage Atlas* (12th Edition), no Estimated Habitats of Rare Wildlife, Priority Sites of Rare Species Habitat, or Certified Vernal Pools exist on or near the SWSA.
- Under the 2007 Existing Condition, the stormwater system for the SWSA consists of catch basins and underground piping that flow to Maverick Street Outfall, which drains stormwater from the Maverick and Harborwalk drainage areas, and to the Porter Street Outfall. (Both outfalls discharge to the Boston Harbor.)
- Under the 2007 Existing Condition, portions of the SWSA discharge stormwater to the BWSC Porter Street drain.
- The Massport stormwater outfalls (which will be utilized as part of the stormwater design for the Program) discharge to land subject to coastal storm flowage, as defined in 310 CMR 10.04.
- Work within the 100-foot Coastal Bank buffer would include constructing portions of the extension of Tomahawk Drive and landscaping as well as reconfiguration of Lot B to accommodate the temporary Taxi Pool relocation. This work has been reduced as a result of the reduced Program as it no longer includes QTA service areas in the buffer area, as previously proposed.
- Under the 2018 Build Condition, a total of approximately 7.7 acres of pervious surface area would be provided (an increase of 6.1 acres from the 2007 Existing Condition).
- In close coordination with the Boston Water and Sewer Commission (BWSC) and DEP, the proposed stormwater management plan has been designed to meet and/or exceed DEP's *Stormwater Management Policy and Guidelines*.¹ The SWSA Redevelopment Program is expected to improve the quality of the runoff by:
 - Upgrading and centralizing stormwater management facilities of the SWSA;
 - Decreasing paved/impervious area and increasing landscaped area site-wide;
 - Replacing uncovered vehicle surface parking with buildings;
 - Reducing Combined Sewer Overflow (CSO) discharge volumes to the BWSC CSO where all stormwater will be conveyed to the existing Maverick Street Outfall; and
 - Reducing the peak flow rates from the SWSA during significant storm events.
- Per DEP's 2008 *Stormwater Management Standards*, Standard No. 7, the Project qualifies as a redevelopment. Therefore, the proposed stormwater management system complies with the provisions outlined under DEP's redevelopment criteria.

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¹ In response to DEP's comments on the 2008 Draft EIR/EA, Massport submitted supplemental information on stormwater management (dated February 25, 2009). This submittal was also included as Attachment D of the October 2009 NPC.

Key findings and benefits related to water supply and wastewater generation include:

- The SWSA currently receives potable water from the City of BWSC which obtains water from the Massachusetts Water Resources Authority (MWRA) system.
- The MWRA handles the wastewater generated from the SWSA, which is ultimately treated at the Deer Island Sewage Treatment Plant in Boston Harbor.
- Compared to the 2018 No-Build/No-Action Condition water demand, by which time the Flight Kitchen has been removed from the SWSA, as an independent action, the Program requires approximately 11,852 gallons per day more of potable water.
- The SWSA Redevelopment Program would require approximately 105,012 gallons per day of potable water (including approximately 8,300 gallons per day for irrigation uses) and would generate approximately 95,465 gallons per day (based on DEP Title 5 guidelines). (*Note: Water demand and wastewater generation projections do not account for the proposed efficiency performance criteria, per MA LEED Plus requirements.*)
 - Based on Title 5 guidelines, compared to the 2007 Existing Condition (150,171 gallons per day), the Program would reduce potable water demand and wastewater generation due primarily to the relocation of the Flight Kitchen from the SWSA as an independent action.
 - Based on Title 5 guidelines, compared to the 2018 No-Build/No-Action Condition (93,160 gallons per day), the Program would increase potable water demand and wastewater generation due to the consolidation and increased capacity of rental car operations at the ConRAC facility.
- The Program would reduce stormwater flow to the BWSC combined sewer outfall due to the proposed drainage infrastructure upgrades.
- In accordance with the goals of the MA LEED Plus program, the SWSA Redevelopment Program has been designed to include and/or implement:
 - A minimum 20 percent reduction in water usage;
 - A minimum 50 percent reduction in landscape irrigation; and
 - The continuation of reclaiming the car wash water during car cleaning/maintenance activities.

Drainage

This section describes the existing and future stormwater drainage conditions of the SWSA. As these drainage issues are interrelated, the following discussion addresses them in the context of describing the proposed approach to the Stormwater Management Standards No. 2 through No. 6, and providing the result of the related calculations as listed in Table 5-1.

Table 5-1
Drainage Issues

Issue	See Discussion of Stormwater Standard
Runoff calculation using TR20/TR55 method	No. 2 (Pre- and Post-Development Runoff Rate calculations)
Outfalls 001, 002 and 004	No. 2 (Pre- and Post-Development discharges to each outfall)
Stormwater recharge	No. 3 (Stormwater Recharge)
Computations for Standards No. 2 through No. 6 ("Massachusetts Stormwater Handbook")	No. 2, 3 and 4*

* Note: The DEP 2008 *Stormwater Management Handbook* Volume 3, Chapter 1 states that the computations for Standards No. 5 and No. 6 are included under Standard No. 4.

The stormwater management approach follows the guidelines of the DEP 2008 *Stormwater Management Standards*.



Existing Site Drainage Conditions

The following sections provide an overview of the existing site drainage conditions, including any resource areas that could be affected by stormwater discharge and an overview of the existing stormwater management infrastructure in the SWSA.

Existing Resource Areas

The Boston Conservation Commission (BCC) administers the Massachusetts Wetlands Protection Act (WPA), *General Law Chapter 131, Section 40*, for the protection of wetland resource areas within the City of Boston. The Commission determines wetland boundaries, reviews projects proposed in or near wetlands and defined buffer areas, and places conditions on development projects that affect wetlands. Some of the wetland resources protected under the WPA include ponds, streams, rivers, marshes, floodplains and Boston Harbor, including its Coastal Bank. Any proposed project within 100-feet of a resource, or in a floodplain, is subject to the Commission's jurisdiction and may require an Order of Conditions under the WPA. There are no federally-regulated wetland resources on or within the SWSA (refer to Chapter 8, *Federal Requirements* for additional information).

There are no state-regulated wetland resources areas present on the SWSA. According to the *Massachusetts Natural Heritage Atlas* (12th Edition), no Estimated Habitats of Rare Wildlife, Priority Sites of Rare Species Habitat, or Certified Vernal Pools occur on or near the SWSA (Figure 5.1). Additionally, no federally-listed endangered or threatened species exist on or near the SWSA (refer to Chapter 8, *Federal Requirements*).

The 100-foot buffer zone for Coastal Bank extends over developed land consisting of the Harborwalk, the edge of the Jeffries Point Neighborhood, and a portion of airport property, including a small portion of the SWSA. Current SWSA uses within the 100-foot buffer zone include a roadway and surface parking for

National Car Rental, the Bus and Limousine Pools, as well as a portion of the Flight Kitchen building (Figure 5.1). The 100-foot buffer zone for Coastal Bank also extends over developed land on Lot B (the temporary location for the Taxi Pool during construction). This area includes pavement rehabilitation, some full depth pavement and a chain-link fence.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate maps, a small area of the southeast corner of the SWSA near the Boston Harbor is within a 100-year flood zone (Flood Zone Designation AE, inundated by one percent annual chance of flooding, as shown on Panel 250286-011D of the Flood Insurance Rate Map for Boston, dated November 2, 1990). As discussed in Chapter 8, *Federal Requirements*, the SWSA Redevelopment Program will be constructed in accordance with all applicable federal and state building and construction codes, and this action would comply with U.S. Department of Transportation Order 5650.2, Floodplain Management and Protection.

Topography and Hydrology

The SWSA is located within a broader drainage area of approximately 52.9 acres. This drainage area is adjacent to the Boston Harbor on the southeastern corner in the vicinity of Jeffries Cove and the Harborwalk. The drainage area is almost completely paved and has no surface water features. The SWSA is generally flat with a grade change of approximately 12 feet on average and includes parking lots, roadways, and associated structures for existing ground transportation operations. The existing SWSA does not currently recharge any runoff.

A preliminary site investigation consisting of test borings to evaluate the subsurface conditions in the SWSA was conducted in late 2007. Information from this investigation was used to determine recommended foundation systems for the Garage Structure, CSC, QTA buildings, and ancillary structures for conceptual design. Preliminary review of twenty-eight (28) boreholes performed under the Phase 1 and 2 of the geotechnical subsurface explorations indicated two locations that were potentially suitable for recharge. Based on the exploration method used, these locations require additional geotechnical investigation to confirm recharge potential as well as soil classification limits. The greater portion of boreholes indicated the "C" soil horizon to be predominately consistent with the NRCS soil profile of urban fill and unsuitable for recharge. Some of these locations consisted of classifiable soils; however, they were underlined by deeper fill layers consisting of materials (asphalt, brick, concrete, construction debris, etc.) conducive to relocating the proposed recharge elsewhere. With the absence of monitoring well data, it is estimated that groundwater is located at least six feet below grade, as it was not encountered in the vacuum excavations performed at each of the boring locations. Based on previous subsurface exploration performed previously for the Central Artery Project in this area, groundwater is estimated to be in the range of approximately 8 to 10 feet below grade and is influenced by tidal conditions. A detailed subsurface exploration program will be conducted in support of the site design as part of the SWSA Redevelopment Program.

Existing Site Drainage System

The SWSA is almost entirely paved, drains to the existing catch basins and storm drainage piping, and does not recharge runoff into the ground. Figure 5.2 shows the existing stormwater and combined sewer outfalls. There are four main systems that discharge to three outfalls and one small disconnected pervious area that discharges off-site:

- Porter Street Outfall 003: Discharge connections are to the CSO pipe, downstream of the regulator;
- Maverick Street combined sewer (upstream of regulator). During wet weather events, these flows contribute to Maverick Street combined sewer overflow (CSO), which discharges to Boston Harbor from a separated CSO chamber at the Maverick Street Outfall 004;
- Separated storm drainage lines that discharge to Boston Harbor from the separated storm drain chamber at the Maverick Street Outfall 004; and
- Birds Island Flats/West Outfall 002: Separated storm drainage lines that discharge to Boston Harbor.

Existing flows contribute to Outfall 002, Outfall 003 or Outfall 004. While the Secretary's Certificate mentions Outfall 001 (North Outfall), it should be noted that none of the SWSA stormwater runoff contributes to Outfall 001.

Site Sub-catchments

As shown in Figure 5.3, the SWSA site drains in five distinct directions, each representative of a site subcatchment or drainage area and its "design point."

- Design Point A: Discharge to Porter Street Outfall.
- Design Point B: Discharge to separated storm drain chamber at Maverick Street Outfall.
- Design Point C: An off-site Area.
- Design Point D: Discharge to Maverick Street combined sewer.
- Design Point E: Discharge to Birds Island Flats/West Outfall.

Existing Storm Drainage System

The following section describes the existing drainage system downstream of the SWSA. Refer to Figure 5.3 for an illustration of the existing drainage areas.

Porter Street Outfall: The Porter Street Outfall is a CSO that runs from the end of Porter Street and diagonally crosses the SWSA and discharges directly into the Boston Harbor southeast of the site. Downstream of the regulator, the Porter Street Outfall receives flow from other Massport storm drains and from MassPike storm drains associated with the toll plaza for the Ted Williams Tunnel. A portion of this drainage line near the toll plaza was relocated as part of the construction of Ted Williams Tunnel and the Central Artery/Tunnel.

Maverick Street Outfall: The Maverick Street Outfall is located along the Harborwalk that extends from the easterly end of Maverick Street and features a double-chambered structure. The westerly chamber receives combined sewer overflows from the Maverick Street regulator, located east of Jeffries Street. The easterly chamber receives separated storm drainage from the majority of the SWSA. The chamber ultimately discharges to Boston Harbor. The flow from the CSO connects into a separate chamber that is completely isolated from the chamber that handles the separated storm drainage. Figure 5.4 depicts the existing conditions of the Maverick Street Outfall 004.

Off-Site Area: This portion of the site is a small drainage area beyond the sound wall that abuts Maverick Street. The location is tree lined and vegetated.

Maverick Street Combined Sewer: The Maverick Street combined sewer line runs to the east along Maverick Street to a regulator east of Jeffries Street. At this point, the dry weather flow reverses direction and flows to the west to an MWRA interceptor sewer. A combined sewer overflow line continues to flow to the east along the extension of Maverick Street and along the Harborwalk. It discharges into Boston Harbor through the CSO chamber at a double-chambered structure at the Maverick Street Outfall 004 (Figure 5.4). As-built plans of this outfall are located in Appendix F; P4 and P5: Outfall Structure at Jeffries Cove 1 and 2.

Bird Island Flats / West Outfall: The Bird Island Flats/West Outfall is drainage outfall that is adjacent to the Porter Street CSO Outfall. Both outfalls are located along the southwest corner of the Airport just south of the Hyatt Hotel (Figure 5.2).



Proposed SWSA Redevelopment Program Site Drainage System

Figure 5.5 shows the future site drainage conditions. The proposed site drainage is designed based on the following criteria:

- Eliminating site discharges to Maverick Street combined sewer upstream of the regulator, thereby contributing to the reduction in the frequency and volume of combined sewer overflows;
- Reducing the flows contributing to the Porter Street Outfall;
- Eliminating flows contributing to the Bird Island Flats/West Outfall;
- Using stormwater Best Management Practices (BMPs) to assist in managing runoff rates, improving water quality, and providing a practical degree of groundwater recharge; and
- Modifying the Maverick Street Outfall structure and relocation of the tide gates and monitoring points to locations upstream of the Outfall.

Tables 5-2 and 5-3 below demonstrate the reduction in impervious surface cover upon completion of the SWSA Redevelopment Program. These tables indicate two main systems that discharge to two outfalls and one small disconnected pervious area that discharges off-site (Figure 5.3). The existing and proposed drainage area for the project extends beyond the limits of SWSA. Therefore, the total acreage of the drainage is larger than the total acreage of the SWSA. Thus the pervious and impervious acreage is also greater. Figures 5.3 and 5.5 show the existing and proposed drainage areas that extend beyond the limits of the SWSA, respectively.

Table 5-2
Pre-Development Site Impervious Cover

Design Point	Location	Total Area	Impervious Area	Pervious Area
Design Point A	Porter St. Outfall	10.42 Acres	9.39 Acres	1.03 Acres
Design Point B	Maverick St. Outfall	37.35 Acres	32.49 Acres	4.86 Acres
Design Point C	Offsite Area	0.34 Acres	0 Acres	0.34 Acres
Design Point D	Maverick St. CSO	3.18 Acres	3.10 Acres	0.08 acres
Design Point E	West Outfall	1.60 Acres	1.26 Acres	0.34 Acres
TOTAL		52.89 acres¹	46.24 acres	6.65 acres

1 The drainage area extends beyond the SWSA site boundaries (a total of approximately 49 acres).

Table 5-3
Post-Development Site Impervious Cover

Design Point	Location	Total Area	Impervious Area	Pervious Area
Design Point A	Porter St. Outfall	8.46 Acres	6.36 Acres	2.10 Acres
Design Point B	Maverick St. Outfall	44.09 Acres	36.19 Acres	7.90 Acres
Design Point C	Offsite Area	0.34 Acres	0 Acres	0.34 acres
Design Point D*	Maverick St. CSO	-	-	-
Design Point E*	West Outfall	-	-	-
Total		52.89 acres¹	42.55 acres	10.34 acres

*Note: Project Areas were combined to Design Point B.

1 The drainage area extends beyond the SWSA site boundaries (a total of approximately 49 acres).

Tables 5-4 through 5-6 below demonstrate the pre- and post-development flows at each design point of the drainage area for the 2-, 10-, and 100-year storms. Calculations are based on the National Resources Conservation Service (NRCS) TR20/TR55 Methods. Refer to Appendix F for the back-up drainage calculations.

Table 5-4
Pre- and Post-Development Flows Design Storm – 2-Year

Design Point	Location	Pre-Development	Post-Development
Design Point A	Porter Street Outfall	28.8 cfs	24.3 cfs
Design Point B	Maverick Street Outfall	83.1 cfs	93.0 cfs
Design Point C	Offsite Area	0.6 cfs	0.6 cfs
Design Point D	Maverick St. CSO	9.7 cfs	0 cfs
Design Point E	West Outfall	4.7 cfs	0 cfs
Peak Total*		114.6 cfs	105.2 cfs

*Note: The 'Peak Total' does not represent a direct sum of the design point peak flows, but rather the peak cumulative flow for all design points at a mutual time of concentration.

Table 5-5
Pre- and Post Development Flows Design Storm – 10-Year

Design Point	Location	Pre-Development	Post-Development
Design Point A	Porter Street Outfall	42.3 cfs	36.6 cfs
Design Point B	Maverick Street Outfall	122.3 cfs	138.3 cfs
Design Point C	Offsite Area	1.1 cfs	1.1 cfs
Design Point D	Maverick St CSO	14.0 cfs	0 cfs
Design Point E	West Outfall	7.1 cfs	0 cfs
TOTAL Flow		168.7 cfs	156.7 cfs

Table 5-6
Pre- and Post-Development Flows Design Storm – 100-Year

Design Point	Location	Pre-Development	Post-Development
Design Point A	Porter Street Outfall	61.5 cfs	53.8 cfs
Design Point B	Maverick Street Outfall	177.7 cfs	202.2 cfs
Design Point C	Offsite Area	1.8 cfs	1.8 cfs
Design Point D	Maverick St CSO	20.2 cfs	0 cfs
Design Point E	West Outfall	10.5 cfs	0 cfs
TOTAL Flow		245.3 cfs	229.4cfs

In summary, the Tables 5-4 through 5-6 above demonstrate that the Program complies with the following required criteria for Standard No. 2:

- **Design Point A – Porter Street Outfall:** Post-development flows would not exceed pre-development flows due to 2 acres of drainage area that is diverted to Design Point B. Most flows south of the CSO as well as some north are diverted to the Maverick Street Outfall drainage system. However, a large portion of flows, north of the CSO, are maintained to the Porter Street CSO. These flows would remain due the inability to cross the CSO culvert due to its size and minimal cover.
- **Design Point B – Storm Drain at Maverick Street Outfall:** Post-development flows would be greater than pre-development flows due to an increase of drainage area by approximately 6.7 acres. This condition is acceptable per the requirements of Standard No. 2, for stormwater discharges to land subject to coastal storm flowage as defined per 310 CMR 10.04.
- **Design Point C – Off-Site Area:** Post-development flows would remain the same as this area is hydraulically disconnected from the SWSA, separated by the Maverick Street noise barrier that will remain intact.
- **Design Point D – Maverick Street Combined Sewer:** Post-development flow would be reduced by redirecting site runoff to the Maverick Street Outfall and eliminating flow to any connection upstream of the regulator for the BWSC combined sewer.

- **Design Point E – Storm Drain at Bird Isle Flats Outfall/West Outfall:** Post-development flows would be reduced by diverting some of the existing flow into the Maverick Street Outfall.

In summary, the post-development design point flows comply with the requirements of Standard No. 2 for pre- and post-development discharges. In addition, the post-development peak project site flow would not exceed pre-development peak project site flow and are lower than pre-development peak with the exception of Design Point B (Maverick Street Outfall).

Consideration of Combined Sewer Overflow (CSO) Occurrences

The Secretary's Certificate on the 2008 DEIR required analysis to determine the likelihood of unanticipated CSO occurrences. Drainage from the SWSA would only affect CSO occurrences when the drainage is being connected to a combined sewer system upstream of the regulator. Design Point D is the only location on the SWSA that connects the site drainage upstream of a regulator. The future condition entirely removes all drainage from the BWSC combined sewer pipe, thus eliminating an impact on CSO occurrences. Design Point A connects to a BWSC CSO downstream of the regulator and the future condition reduces the amount of drainage going into that system by almost two acres. By redirecting site runoff away from combined sewers, the proposed stormwater management system would reduce the likelihood of CSO occurrences by reducing storm flow upstream of the regulator. Since the Program would eliminate or reduce flows to the combined sewer systems, no additional flow analysis is required.

Illicit Discharges

Measures to prevent future illicit discharges to the stormwater drainage system will be developed and implemented as part of final design and construction of all storm drainage and sewer systems according to Massport and BWSC standards. The details of each system will be developed in close coordination with BWSC staff as well as Massport staff to prevent future illicit discharges to the stormwater drainage system.

Work Proposed Within the 100-Foot Buffer

A small portion of the SWSA Redevelopment Program is located within the 100-foot buffer of the Boston Harbor; therefore, any work proposed in this area, other than routine maintenance work, would likely require an Order of Conditions from the Boston Conservation Commission. When the site development plans are completed, Massport will file a Notice of Intent or Request for Determination of Applicability with the BCC for work proposed within the protected area. No work would occur within the Coastal Bank.

Work proposed within the 100-foot buffer includes constructing portions of the extension of Tomahawk Drive and landscaping. The SWSA Redevelopment Program is expected to improve the quality of runoff by upgrading stormwater management facilities site-wide and by replacing a portion of paved area with pervious landscaping within the 100-foot buffer of Coastal Bank.

Work within the 100-foot buffer zone is also proposed for the temporary Taxi Pool at Lot B along Harborside Drive (outside of the SWSA). Pavement rehabilitation and some full depth pavement is proposed as well as removal of the existing chain link fence. A new six-foot high black vinyl chain fence will be installed in the same location. No work west of the site towards the Harborwalk is proposed and all trees along the Harborwalk will remain and be protected during construction. There is some minor drainage work being

done with in the 100-foot buffer as well. All catch basins will have inserts to protect them during construction. There are two separate drainage systems that flow into the Bird Island Flats Outfall (Figure 5.2). Each of those drainage systems will be updated to include a storm sceptor system to be sized to treat the first one inch of runoff. A silt fence and hay bales will be installed along the Harborwalk boundary of the property to provide additional protection.



Compliance with the DEP's Stormwater Management Standards

The following describes the proposed approach to site compliance with the 2008 DEP Stormwater Management Standards. Table 5-7 includes an overview of compliance with the Standards.

Table 5-7
Summary of Compliance with Stormwater Standards

DEP Standard	Item	Compliance	Comments
Standard No. 2	No increase in peak discharge	Yes	Discharging to tidal waters and land subject to coastal flowage
Standard No. 3	Groundwater recharge	Yes	Overall increase in pervious surface area will increase recharge Method of recharge: TBD
Standard No. 4	80% TSS removal	Yes	Reduction of project impervious and removal of TSS to the maximum extent practicable prior to discharge
Standard No. 5	Higher pollutant loading	Yes	Will treat the first 1- inch of runoff
Standard No. 6	Discharge to Critical Areas	Yes	Will treat the first 1- inch of runoff

Source: The DEP 2008 Massachusetts Stormwater Handbook.

Compliance with Stormwater Standard No. 2

Stormwater Standard No. 2 states the following:

2. *Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for discharges to land subject to coastal storm flowage (LSCSF) as defined in 310 CMR 10.04.*

The proposed stormwater management system will be designed to comply with the requirements of this Standard for pre/post development. At Maverick Street CSO (Design Point B) this Standard is expected to be waived due to the discharge into waters tidal waters/LSCSF and the flow increase attributed to increasing the drainage area by seven acres. Tables 5-4, 5-5, and 5-6 indicate the flows associated with the SWSA for the 2-, 10- and 100-year 24-hour design storms for the pre and post-development peak flows.

CDM Engineering maintains the NPDES flow models for Massport and BWSC. CDM evaluated both the BWSC and Massport flow models for the existing conditions at the Maverick Street Outfall 004. The results were compared to the TR20/TR55 flow model results and it was determined that the CDM Storm Water Management Model (SWMM) calculations are more conservative. The results of this analysis are shown in Table 5-8 below. As directed by the Secretary's Certificate on the 2009 NPC, a full pre- and post-flow model analysis was performed using the TR20/TR55 flow model. The results of CDM's analysis and the TR20/TR55 model results are provided in Appendix F.

The proposed configuration of the Maverick Street Outfall, which includes removal of the cinder block wall and relocation of the tidegates upstream of the outfall, would provide a capacity of approximately 330 cubic feet per second (cfs). This capacity assumes high tide, surcharged conditions with 12 inches of freeboard and maintaining the two 3-foot by 5-foot openings at the mouth of the outfall. For a 25-year storm in the post development condition the outfall provides both Massport and BWSC with adequate capacity.

Logan Airport and the entire SWSA site discharge to land subject to coastal storm flowage as defined in 310 CMR 10.04. Therefore, Standard No. 2 can be waived for the work proposed at this site. Nonetheless, the Program is expected to comply with Standard No. 2.

Table 5-8
Pre-Development Flows to Maverick Street Outfall

	10 Year	25 Year	100 Year
SWMM Model Results	152 cfs	187 cfs	223 cfs
TR20/TR55 Model Results	122 cfs	147 cfs	178 cfs
Rational Method	121 cfs	141 cfs	177 cfs

Compliance with Standard No. 3

- Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures including environmentally sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.*

Groundwater Recharge

Groundwater recharge is not an issue of concern in the SWSA or its immediate environment due to the influence of the Atlantic Ocean on groundwater levels. Nonetheless, the Program would increase the amount of pervious area on the existing site from 1.6 acres to 7.7 acres. Therefore, even without providing specific recharge provisions, this Standard will be met and there would be an increase in the annual recharge to the groundwater. However, the Secretary's Certificate requested that Massport demonstrate a greater commitment to providing groundwater recharge. Therefore potential locations for shallow, below-grade infiltration beds throughout the SWSA will be further evaluated during final design as well as in all landscaped areas that are greater than 20 feet from the building. Additionally, the potential to establish grass infiltration swales at the perimeter of the site will be evaluated and operation and maintenance procedures can be identified that would be necessary to meet this Standard.

The Program is also proposing to capture the runoff from the roof of the CSC, the QTA buildings, and the solar canopies on the roof of the Garage Structure. A majority of the runoff would be captured and collected in rain barrels or underground storage tanks to be used for irrigation of landscape throughout the site during the planting season. Potentially, no irrigation system would be installed. Prior to capturing water into rain barrels, the water would have to be treated for a minimum of 44 percent TSS removal. A vortex type system would be required to treat the runoff prior to storage.

Other infiltration and BMPs that may be considered in the final design include:

- Tree box filters along the perimeter of the site;
- Shallow below grade infiltration beds;
- Grass infiltration swales;
- Vegetated or organic filters or self contained filters that allow runoff to filter through;
- Perforated drainage pipe for treated stormwater; and
- Plastic stormwater detention/retention chambers (CULTEC type system).

Existing Soils Characterization

There is no NRCS mapping of surficial soils. Therefore, the characterization of the existing soils is based on data obtained from site geotechnical investigations, applying the NRCS criteria to determine the NRCS Soils Group. During the construction phase of the project additional borings and soil samples will be taken to better evaluate the soil within the site.

Surficial Soils Characterization

Surficial conditions typically consist of a variable layer of bituminous pavement over granular material. The bituminous pavement would be classified as impervious. The granular material meets the characteristics of NRCS Soils Group A. The limits of the granular material are approximately three to five inches below the bituminous pavement. Soils below the granular material layer are a silty-sandy-clay material that best meets the characteristics of NRCS Soils Group C and D.

Groundwater Depth and Soils Characterization at the Depth of Potential Storm Water Infiltration Facilities

Existing seasonally high groundwater is on-average encountered at six feet below existing grade over the site. Based on this depth of groundwater, the depth of potential stormwater infiltration facilities would be in the order of 2 to 4 feet below existing grade. At these depths, existing soil is generally characterized as urban fill, consisting of various materials including cobbles, rubble, gravel, ash and silts that is unsuitable for recharge. Locations where soils could be classified within the recharge soil horizon were typically underlined by deeper fill layers consisting of asphalt, brick, concrete, construction debris, etc., that were also unsuitable for recharge. Since the fill material is not homogeneous, but varies across the site, a single characterization is not possible. However, most material sampled generally would meet the characteristics of NRCS Soils Group C.

The SWSA is also a site with an Activity and Use Limitation (AUL) as well as underground foundations from previous buildings.

Compliance with Standard No. 4

4. *Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This Standard is met when:*
 - a. *Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan, and thereafter are implemented and maintained;*
 - b. *Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and*
 - c. *Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook.*

Treatment Best Management Practices

Since Logan Airport is located in an urban waterfront environment, standing water, such as a stormwater detention basin, may attract rodents and/or water fowl which are an airport hazard and, therefore, is not a preferred stormwater management measure. Additionally, the groundwater elevation and the classification of the soils on site may make some treatment BMPs, such as wetlands and rain gardens, infeasible or inappropriate in the SWSA. Given the large number of unworkable treatment BMPs for the SWSA, it is proposed to use treatment BMPs where practical and to supplement them as necessary with pre-treatment BMPs. Pretreatment BMPs require less standing water and less at-grade space. Pretreatment BMPs are, therefore, more appropriate for on-airport use.

The proposed approach to the application of BMPs and the removal of TSS to the maximum extent practicable (80 percent), including a full list of treatment and pre-treatment BMPs, their TSS removal rates, and their applicability to the SWSA are provided in Appendix F. The proposed program is expected to comply with Standard No. 4 redevelopment requirements.

Compliance with Standard No. 5

5. *For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt, and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by the Department to be suitable for such uses as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53 and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.*

The SWSA is classified as a LUHPPL due to the fact that it contains a fueling facility, commercial washing facilities for vehicles, exterior fleet storage areas, exterior vehicle service maintenance and cleaning areas, and parking lots with high-intensity uses (greater than 1,000 vehicle trips per day or more).

The 2008 Stormwater Management Standards require the use of 1-inch (in lieu of the usual ½-inch) of runoff for the calculation of the water quality volume (WQV). This WQV will be used in design of the BMPs as required under Standard No.4. In addition, Standard No. 5 redevelopment requirements call for pollution prevention compliance to be implemented. This program is addressed in the SWPPP/NPDES sections of this

chapter. Additional criteria will be prepared as part of the final drainage design under the Operation and Maintenance Plan.

As noted in Volume 3, Chapter 1, of the Massachusetts Stormwater Handbook the computations for Standard No. 5 are included under Standard No. 4. There are no separate computations needed.

A full list of Treatment and Pre-Treatment BMPs and their applicability to the SWSA is provided in Appendix F. All proposed treatment and pre-treatment BMPs will be sized for the full 1-inch of Water Quality Volume to meet the requirements for Standard No. 5.

Compliance with Standard No. 6

6. *Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area, require the use of the specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook. A discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, taking into account site-specific factors. Stormwater discharges to Outstanding Resource Waters and Special Resource Waters shall be removed and set back from the receiving water or wetland and receive the highest and best practical method of treatment. A "storm water discharge" as defined in 314 CMR 3.04(2)(a)1 or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00. Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of a public water supply.*

The SWSA triggers this Standard due to the shellfish beds near the Maverick Street Outfall as well as the bathing beaches along Boston Harbor. As a result, the selections of BMPs are limited by the Massachusetts Stormwater Handbook.

A full list of treatment and pre-treatment BMPs and their applicability to the SWSA is provided in Appendix F. All proposed treatment and pre-treatment BMPs will be sized for the full 1-inch of Water Quality Volume to meet the requirements for Standard No. 6. In addition, Standard No. 6 redevelopment requirements call for pollution prevention compliance to be implemented (refer to the 'Stormwater Pollution Prevention Plan' and 'NPDES Permit Compliance' sections below). Additional criteria will be prepared as part of the final drainage design under the Operation and Maintenance Plan.

Use of Proprietary Separators

The Massachusetts Stormwater Handbook states that, when Standard No. 6 is applicable, the use of proprietary separators is acceptable only for "pretreatment" but not for "treatment" (which is how they are anticipated to be used here). Therefore, since the "treatment" BMPs allowable under Standard No. 6 are not feasible for the Program (see discussion below), it is necessary to invoke Standard No. 7 for redevelopment projects in order to use the proprietary separators for "treatment," as it is the most practicable BMP.

As noted in Volume 3, Chapter 1, of the Massachusetts Stormwater Handbook the computations for Standard No. 6 are included under Standard No. 4. There are no separate computations needed for Standard No. 6. The application of this Standard triggers the use of one-inch of runoff in the calculation of the Water Quality Volume.

All proposed treatment and pre-treatment BMPs will be sized for the full 1-inch of Water Quality Volume to meet the requirements for Standard No. 6.



Low Impact Development Measures

The Secretary's Certificate requires consideration of low impact development (LID) and the use of integrated management practices (IMP) for control of stormwater.

Low Impact Development (LID) is a sustainable stormwater management strategy aimed at maintaining or restoring the natural hydrologic functions of a site to achieve resource protection objectives and regulatory requirements. LID would employ various natural and built features that reduce runoff rates and filter out pollutants and recharge groundwater. LID design strategies that will be applied in the SWSA Redevelopment Program include:

- Surface grading to encourage sheet flow and lengthen flow paths;
- Dispersal of flow paths;
- Vegetated strips, depressions, and buffers to filter runoff and recharge groundwater; and
- Treatment devices (e.g., oil-water separators, swirl concentrators) to treat pollutant loads where they are generated, or prevent their generation.

Integrated Management Practices (IMPs) may also be considered for the SWSA Redevelopment Program in the final design, including:

- Dry wells;
- Grassed swales;
- Infiltration trenches;
- Inlet pollution removal devices;
- Permeable pavement and pavers;
- Rain barrels and cisterns; and
- Tree box filters.



Stormwater Pollution Prevention Plan (SWPPP)

In accordance with the requirements of the new NPDES permit for Logan Airport (issued on July 31, 2007), Massport and all co-permittees and tenants began preparation of updated Stormwater Pollution Prevention Plans (SWPPPs). Massport's SWPPP addresses stormwater pollutants in general, and also addresses deicing and anti-icing chemicals, potential bacteria, fuel and oil, and rubber removal sources of stormwater pollutants. BMPs are included in the SWPPP. A SWPPP will be prepared for the SWSA Redevelopment Program and would include both Massport and tenants on the site. The SWPPP will include water quality

and quantity controls designed to protect surface and groundwater resources and adjacent properties from potential stormwater runoff impacts. The SWPPP will be designed to meet and/or exceed the ten basic standards outlined in DEP's *Stormwater Management Policy and Guidelines* (discussed below). In particular, the SWSA Redevelopment Program complies with Standard No. 5 as the site will include fueling facilities, fleet storage of cars, and limited vehicle service and maintenance and Standard No. 6 due to the shellfish beds near the Maverick Street Outfall as well as the bathing beaches along Boston Harbor. The SWSA Redevelopment Program will also meet the requirements of Standard No. 7 (Redevelopment) as there would be no increase in impervious area and the existing developed site would essentially be reconfigured for similar uses with operational benefits and efficiencies.



NPDES Permit Compliance

On July 31, 2007 the U.S. EPA issued a NPDES permit for Logan Airport's stormwater outfalls (NPDES Permit MA0000787). This permit became effective on September 29, 2007 and replaces the previous NPDES permit. The NPDES permit MA0000787 regulates stormwater discharges from the North, West, Northwest, Porter Street, and Maverick Street Outfalls, and all of the airfield outfalls. The former NPDES permit regulated stormwater discharges from the North, West, Porter Street, and Maverick Street Outfalls. The areas drained by the outfalls are the North Drainage Area (152 acres); West Drainage Area (557 acres), Northwest Drainage Area (23 acres); Porter Street Drainage Area (130 acres); Maverick Street/ Harborwalk Drainage Area (39 acres); and the Airfield Outfall Drainage Areas (A1 through A44) which drain the remainder of the airfield including runways, taxiways, and the perimeter roadway (910 acres). The North and West Drainage Areas also drain a portion of the airfield. The Porter Street Outfall does not have end-of-pipe pollution control facilities because it is a combined sewer overflow for the BWSC.

The NPDES permit requires samples to be taken monthly from the North, West, Porter Street, and Maverick Street Outfalls. Samples are tested for pH, oil and grease, total suspended solids (TSS), benzene, surfactants, fecal coliform, and enterococcus during both wet and dry weather. Samples are also taken quarterly from these four outfalls during wet weather to test for eight different polynuclear aromatic hydrocarbons (PAHs). Additional sampling requirements of the NPDES permit include sampling for deicing compounds twice during the deicing season (October through April) at the North, West, Porter Street, and airfield (a minimum of seven) outfalls.

As described above, the proposed stormwater system will be designed in accordance with NPDES requirements and BMPs. Supporting calculations and design information are provided in Appendix F to demonstrate conformance with the stormwater regulations and NPDES permit. The SWSA Redevelopment Program will require a NPDES General Permit for Stormwater Discharge from construction activities.



Construction

As described above, the SWSA Redevelopment Program will require a NPDES General Permit for Stormwater Discharge from construction activities. During construction, the Program will follow BMPs for stormwater pollution prevention. In addition, BWSC will require measures to prevent sedimentation from reaching its storm drainage or combined sewer systems. The following measures will be employed:

- Catch basins adjacent to the SWSA will be protected by filters or other methods to prevent the inflow of sediment laden runoff from the site. These filters will be inspected periodically as well as after any major storm.
- Wheel wash facilities will be used during the excavation and foundation phase to prevent the tracking of mud and sediment onto city streets.
- Construction dewatering will be treated through a sedimentation tank prior to discharge to the BWSC drainage system.
- Dust controls will be used on-site.
- Periodic Street sweeping of adjacent City streets will be implemented.

Wastewater

In accordance with the Secretary's Certificate on the 2009 NPC, this section presents the revised analysis of the wastewater flow (based on DEP's comment letter dated December 14, 2009) to verify whether a certification or a Sewer Connection/Extension permit is required for the Program. As demonstrated by the revised analysis, which is based on DEP Title 5 guidelines, the SWSA is expected to result in a decrease in overall site water usage and wastewater generation under the 2018 Build Condition when compared to the 2007 Existing Condition. This is due to the planned demolition of the Flight Kitchen (as an independent action) and its anticipated relocation to either an existing flight kitchen building in the North Service Area (NSA) or off-airport in 2011 (at the termination of the current lease). Compared to the 2018 No-Build/No-Action Condition, the Program would increase water usage and wastewater generation at the SWSA (projections are based on Title 5 flow rates). Based on actual design The SWSA Redevelopment Program is consistent with Massport's efforts to reduce the amount of wastewater generated through water efficiency strategies being evaluated during the design phase as part of the overall sustainable development goals (which are consistent with the goals of the MA LEED Plus program and strive to achieve a LEED Silver rating).



Existing Wastewater Conditions

Currently, the SWSA generates approximately 136,519 gpd of wastewater (Table 5-9). The majority of wastewater from the SWSA discharges to the existing 15-inch BWSC combined sewer pipe in Maverick Street at the southern border of the SWSA. On SWSA property, the sanitary system and stormwater collection systems are separate systems, however, a portion of the stormwater discharges to the existing BWSC combined sewer in Maverick Street. During dry weather, flows in the BWSC 15-inch combined sewer pipe are conveyed to the East Boston Branch sewer and hence to the MWRA Deer Island Treatment Plant. However, during wet weather, the CSO regulator structure at Maverick Street overflows to the Maverick Street Outfall, which discharges directly to the Inner Harbor. Figure 5.7 shows the existing water supply and sanitary sewer systems that serve the SWSA as well as identifies the BWSC CSO regulator and the Maverick Street Outfall.

Table 5-9
Existing Wastewater Generation for the 2007 Existing Condition

Existing Use	Use Category	Qty	Units	Rate	Units	Average Flow (gpd)
Rental car returns	Customers	6,543	Customer	4	gpd	26,172
Flight Kitchen	Kitchen without seats	36,000	sf	2	gpd/sf	72,000
Taxi/Limousine/Bus Pool	Office Building	4,955	sf	0.075	gpd/sf	372
RAC Buildings/QTA	Office Space	57,460 ²	sf	0.075	gpd/sf	4,310
RAC Buildings/QTA	Retail Space	57,460 ²	sf	0.050	gpd/sf	2,873
QTA (car washing, clean water) ¹	Car Washing	3,849	avg vehicles per day	8 ³	avg gals clean water per vehicle	<u>30,792</u>
TOTAL						136,519

1 Total water used for each vehicle is 8 gallons of fresh water and 10 gallons of reclaimed water.

2 Type of Establishment is approximately 50 percent retail space and 50 percent office space .

3 See Appendix F for validation letter from car wash manufacturer.

As shown in Table 5-9 above, the Flight Kitchen currently accounts for a majority of the wastewater flow with an average flow of approximately 72,000 gallons per day. The second largest generator of wastewater is the existing QTA car washing facilities with approximately 30,792 gpd of which a portion of the water flow is reclaimed and reused.



Future No-Build/ No-Action Conditions

Under the 2018 No-Build/No-Action Condition, the SWSA would generate approximately 84,691 gpd of wastewater (Table 5-10). This is a net reduction of 51,828 gpd compared to the 2007 Existing Condition, which is primarily due to the relocation of the Flight Kitchen to the NSA or off-site (as anticipated in 2011 – the end date of the current lease agreement).

Table 5-10
Estimated Wastewater Generation for the 2018 No-Build/No-Action Condition

Existing Use	Use Category	Qty	Units	Rate	Units	Average Flow (gpd)
Rental car returns	Customers	8,860	Customer	4	gpd	35,440
Flight Kitchen	Kitchen without seats	0	sf	0	gpd/sf	0
Taxi/Limousine/Bus Pool	Office Building	4,955	sf	0.075	gpd/sf	372
RAC Buildings/QTA	Office Space	57,460 ¹	sf	0.075	gpd/sf	4,310
RAC Buildings/QTA	Retail Space	57,460 ¹	sf	0.050	gpd/sf	2,873
QTA (car washing, clean water) ²	Car Washing	5,212	avg vehicles per day	8 ³	avg gals clean water per vehicle	<u>41,696</u>
TOTAL						84,691

1 Type of Establishment is approximately 50 percent retail space and 50 percent office space.

2 Total water used for each vehicle is 8 gallons of fresh water and 10 gallons of reclaimed water.

3 See Appendix F for validation letter from car wash manufacturer.

Future Build Wastewater Conditions

Under the 2018 Build Condition, the SWSA will be serviced by the same wastewater sewerage facilities that currently provide wastewater conveyance to the MWRA Deer Island Treatment Plant. Figure 5.8 shows the future water supply and sanitary sewer facilities for the Program.

As presented in Table 5-11 below, based on DEP Title 5 wastewater generation guidelines, the average daily wastewater flow from the SWSA is estimated to be approximately 95,465 gpd. This represents an overall decrease of approximately 41,054 gpd compared to the 2007 Existing Condition (Table 5-9). This net decrease in wastewater flow is largely due to the demolition of the existing Flight Kitchen (72,000 gpd).

Table 5-11
Estimated Wastewater Generation for the 2018 Build Condition (Full Build)

Proposed Use	Use Category	Qty	Units	Generation Rate	Units	Average Flow (gpd)
Rental car returns	Customers	9,236	Customer	4.0	gpd	36,944
	Kitchen					
Flight Kitchen	w/o seats	0	sf	0.0	gpd/sf	0
Taxi/Limousine/Bus Pool	Office Building	6,400	sf	0.075	gpd/sf	480
RAC CSC/QTA	Retail Space	77,682	sf	0.05	gpd/sf	3,884
RAC CSC/QTA	Office Space	106,577	sf	0.075	gpd/sf	7,993
QTA Service Bays	Service Bays	18	bays	150	gpd/bay	2,700
			avg		avg gals clean	
QTA (car washing, clean water) ¹	Car Washing	5,433	veh/day	8 ²	water per vehicle	43,464
TOTAL						95,465

¹ See Appendix F for validation letter from car wash manufacturer.

² Total water used for each vehicle is 8 gallons of fresh water and 10 gallons of reclaimed water

The Title 5 guidelines provide a conservative projection as the DEP rates do not take into account the many water use reduction measures that have been incorporated into new or retro-fitted buildings, as required by the current Massachusetts Building Code nor do they account for high-efficient/low-flow plumbing fixtures to be provided as part of the Program, in accordance with the MA LEED Plus requirement. Massport has reviewed DEP's comment letter on the 2009 NPC, including the revisions to the estimated wastewater generation using Massachusetts Sewer Regulations. It is understood the importance of infiltration and inflow mitigation to the MWRA and BWSC. It should be clarified that footnote number three in the 2008 Draft EIR/EA (Tables 8-3, 8-4 and 8-5) in regards to the reduction of water by 20 percent was only accounted for in the generation rates. To be conservative and, in accordance with DEP's comment letter, DEP wastewater generation rates have been applied to the wastewater projections (presented in Table 5-11) and do not take any reduction for water conservation fixtures.

The car wash facilities to be installed as part of the Program would operate on 100 percent reclaimed water with the exception of the rinse system. The water used in the vehicle wash process is reclaimed internally and reused (after going through a sand/oil/water separator system, treated, and returned to the water storage tanks for reuse). Because the car wash facilities have some level of water reclamation currently, this has been assumed and accounted for under all conditions; however, while not quantified in the wastewater projections, it can be expected that the new/upgraded car washing facilities would be most efficient as the

existing facilities are older. Refer to Appendix F for a letter from the car wash manufacturer in regards to the car washing facilities efficiency rate.

The Program will be designed, constructed, and operated to be eligible for LEED certification. In compliance with the MA LEED Plus program requirement for water conservation, the Program has been designed to reduce the overall water consumption by a minimum of 20 percent and will strive to achieve a 30 percent reduction in an effort to achieve LEED Silver rating (which in turn would reduce wastewater generation). Low-flow and more efficient plumbing fixtures will be part of the design specifications for the Program. Based on actual design assumptions and preliminary calculations based on the LEED methodology for the Water Efficiency Credit 3, the estimated wastewater generation for the Program is 67,364 gallons per day (which is lower than the future No-Build/No-Action Conditions, based on Title 5 guidelines).²

Wastewater-Related Permits

Any new sewer and drain connections will conform to BWSC standards and specifications. Massport will also submit a General Service Application and Site Plan to the BWSC for review and approval. Also, the SWSA Redevelopment Program may require a Sewer Connection Permit from the Massachusetts Department of Environmental Protection as well as a MWRA Industrial User Permit.

Airport-wide, it is expected that the net change in water use and wastewater generation would be minimal due to the similar uses and the relocation of the Flight Kitchen to an existing vacant flight kitchen building in the NSA (or off-airport). The existing and full build Flight Kitchen buildings are both permitted for the same use and function within the airport.

Per DEP's recommendation, the wastewater generation has been revised so that the full build average flow of 95,465 gpd minus the 2007 Existing Condition flow of 136,519 gpd (including the Flight Kitchen) would provide a net decrease of approximately 41,054 gpd for sewer permitting determination. Additionally, there is additional sewage removal from the system due to the 3.18 acres of stormwater runoff that currently enters the BWSC combined sewer upstream of the regulator (Design Point D). Massport plans to meet with BWSC to best determine the methodology to calculate the total gallons per year that the stormwater contributes to the sewer system. Under these circumstances, it is currently anticipated that a plan for I/I removal within the sewer system is unnecessary.



Proposed Beneficial Measures and Mitigation for Wastewater

In order to reduce the environmental impact on water supply and wastewater generation, the SWSA Redevelopment Program will incorporate the following impact reduction measures:

- The Program will be designed, constructed and operated to be eligible for LEED certification by including sustainable design measures, such as water-efficient systems for the new facilities in the SWSA. Massport will strive to achieve a LEED Silver rating and the goals of the MA LEED Plus program.



² U.S. Green Building Council, *New Construction & Major Renovation Reference Guide*, version 2.2, second edition, September 2006.

- Reducing water use demand by 20 percent is a minimum requirement for the MA LEED Plus certification program. It is anticipated that high-efficient, low-flow plumbing fixtures and car wash water reclamation systems will be utilized (these measures are not accounted for the in wastewater generation calculations herein).
- Reducing irrigation water by 50 percent in comparison to standard irrigation methods is a minimum requirement for the MA LEED Plus certification program. This will be achieved through the use of high-efficiency irrigation systems and utilization of native, drought-tolerant plantings.
- The car washes will continue to operate on 100 percent reclaim water with the exception of the rinse cycle.
- Massachusetts Water Resources Authority (MWRA) approved oil water separators (i.e., traps) will be used for all storm drainage from the parking garage, in accordance with the BWSC's Requirements for Site Plans, so that hydrocarbons and other contaminants are collected prior to discharge to the BWSC sanitary sewer system. These devices will be approved through the MWRA and BWSC approvals process
- It is anticipated that the reduction in wastewater flows from the SWSA, and the design of the new sanitary and drainage systems will result in an overall reduction in combined sewer overflow volumes at the Maverick Street Outfall. The new drainage system for the SWSA will connect to the BWSC drainage system at locations that are downstream of existing CSO regulator structures and will discharge to the existing Maverick Street Outfall.

Infiltration/Inflow Mitigation

The DEP's Policy of Managing Infiltration and Inflow in MWRA Community Sewer Systems requires the removal of four gallons for every gallon added to the sewer system. As presented above, the wastewater generation analysis demonstrates that compared to the 2007 Existing Condition the Program would result in a decrease of approximately 41,000 gallons per day of sanitary flow. In addition to the proposed water and wastewater conservation measures, the Program would reduce CSO discharge volumes to the BWSC system to area outfalls under the 2018 Build Condition due to the proposed disconnection of the storm water drainage system to the Maverick Street Combined Sewer (discussed further above under the 'Drainage' section).³ Peak storm water discharges from the SWSA are also anticipated to be less in comparison to existing discharges. Therefore, the Program is not anticipated to be required to participate in the I/I reduction program because it would reduce and not increase overall wastewater flow to the sanitary sewer system under the 2018 Build Condition compared to the 2007 Existing Condition.

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The BWSC requested that Massport eliminate stormwater discharges from the SWSA to the existing Porter Street Outfall. As a result, discharge of storm flow to the Porter Street Outfall will be eliminated and all storm flow from the site will be directed to the Maverick Street Outfall. Future design elements are expected to eliminate the site stormwater volume that may currently contribute to combined sewer overflows.

6

Construction

Overview

The following chapter includes a description of the construction phasing for the proposed SWSA Redevelopment Program, an assessment of the projected impacts as a result of temporary construction activities, and proposed measures to mitigate these impacts.

Since the filing of the 2008 Draft EIR/EA, the construction sequencing plan has been revised. The period of construction has been reduced as the Program would be constructed in a single construction period rather than the previously proposed two periods of construction activity (Phase I and Phase II/Full-Build). Construction is anticipated to commence in 2010. All ConRAC facilities (the Garage Structure, Customer Service Center (CSC), permanent QTAs 1 and 2, and temporary QTAs 3 and 4) would be constructed first. By early 2015, the entire Program would be constructed and operational. Another key change to the construction phasing includes the temporary relocation of the Taxi Pool to Lot B on Harborside Drive (in place of the Avis rental car operations). The construction traffic and air quality analyses have been updated to reflect the projected traffic diversions and increase in VMTs associated with the changes to construction phasing.

As part of its project approvals process, Massport requires all contractors to adhere to certain construction guidelines that relate to:

- Construction debris and demolition waste recycling;
- Retrofitting certain equipment types with diesel oxidation catalyst and/or particulate filters;
- Selection of high efficiency “temporary” space heating/cooling systems;
- Soil treatment and reuse on site (Soil Management Plan);
- Voluntary compliance with the requirements of City of Boston noise ordinances, including restrictions on the types of equipment that can be used, and limitations on the hours when certain activities can take place (the City of Boston noise ordinance establishes restrictions during the construction hours between 6:00 PM and 7:00 AM); and
- Construction worker vehicle trip management, including requiring contractors to provide off-airport parking, use high-occupancy vehicle transportation modes for employees, and join the Logan Employee Transportation Management Association (TMA).

Massport is also committed to sustainable practices to help reduce impacts associated with construction through their recently established Sustainable Design Standards and Guidelines for design and construction projects.¹



Key Findings and Benefits

Key findings and benefits related to construction period impacts include:

- Construction impacts are temporary in nature and generally related to noise, air quality, soil erosion and sedimentation, truck traffic, and generation of hazardous and construction waste. These construction impacts will be mitigated by the adoption of appropriate construction methods, specifications, and monitoring.
- Massport will implement a construction phasing plan that would minimize disruptions in the SWSA and the entire airport.
- Foundation work, such as pile driving, will be arranged for minimal impact and would only occur for a relatively short period of time. Piles will be pre-augured through the upper 60 feet or more of soils, reducing the number of hammer blows required to seat the piles, therefore reducing the noise impact on the community.
- In order to reduce potential impacts from construction activities, Massport will implement a Construction Management Plan that will include:
 - Construction truck traffic routing on regional roadways and not on local/neighborhood streets.
 - An Erosion and Sedimentation Control Program to minimize construction phase impacts to the nearby water resources consistent with the existing NPDES permit for the airport.
 - A requirement that construction contractors install emission control devices on certain equipment types in order to reduce impacts to air quality.
 - Noise attenuation measures such as temporary noise barriers, re-routing traffic and/or equipment mufflers that may reduce temporary construction noise impacts within the surrounding community. Pile driving will be required to comply with a project-specific noise specification that will reflect the requirements of City of Boston noise ordinances, and will restrict the types of equipment that can be used and may limit the hours when certain activities can take place.
 - Recycling of the materials resulting from removal of the existing above ground building structures, along with the below-ground foundation slabs and footings, plus all other surface asphalt and concrete that is removed during demolition. Massport expects that a minimum of 75 percent of the construction waste will be diverted from landfills through reuse and/or recycling.
 - Implement a Soils Management Plan to address the potential for releases of oil or hazardous materials during excavation of the SWSA and meets the requirements of the Massachusetts



¹ Massachusetts Port Authority, *Sustainable Design Standards and Guidelines*, Version 1, June 2009.

Contingency Plan and the existing Activity and Use Limitations in effect for portions of the SWSA.

Construction Phasing

Construction of the ConRAC facilities will be preceded by numerous enabling activities that re-organize the SWSA through multiple sub-phases allowing for enough of the site to be cleared for staging and construction. Some of these enabling projects include reorganization of rental operations within the existing site. Other projects include temporary relocation of ground transportation operations for a limited time period.

Temporary relocations for the 2009 NPC Program include:

- Taxi Pool would be temporarily relocated to Lot B with roadway and signal modifications to Harborside Drive at the Hyatt intersection to mitigate traffic conditions. Upon completion of the ConRAC facility, the Taxi Pool would be returned to the SWSA north of Porter Street.
- The Cell Phone Lot (currently at Lot B) would be relocated to an existing open parking lot across from the Logan Airport gas station. The intersection of Hotel Drive and the service road will be reconfigured to improve traffic flow and reduce wait times for all traffic at this intersection.
- The Bus and Limousine Pools would be temporarily relocated to the North Service Area (NSA), which would require local site improvements including roadways (discussed below), drainage, and underground utilities. Upon completion of the ConRAC facilities, the Bus and Limousine Pools would be relocated back to the SWSA east of Jeffries Street.

The construction of the SWSA Redevelopment Program has been reduced to a single period of construction from the previously proposed two periods of construction activity. This results in shortened construction duration, thus reducing construction impacts and disruptions of operations in the SWSA, the airport, and the surrounding community. The proposed phases occurring within the construction period are described below. Current detailed phasing plans are included with this document; however, these plans will be modified to meet the final planning and design requirements and to accommodate rental car business and ground transportation-vehicle operations, as necessary.

Construction is divided into several “phases”, or “activities.” Because of the magnitude of the SWSA Redevelopment Program and its many program components and users, even each sub-phase is further divided into micro-phases that would need to be carefully developed and considered as construction progresses. Figures 6.1 through 6.9 illustrate the construction activities.

As described in Chapter 1, *Proposed SWSA Redevelopment Program*, the SWSA is currently occupied by the following rental car agencies: Dollar, Hertz, Avis, Budget, Alamo, National, and Enterprise. The SWSA is also home to the Bus and Limousine Pools, the Taxi Pool and the Gate Gourmet Flight Kitchen. Refer to Figure 1.3 for the existing conditions of the SWSA. The Flight Kitchen is scheduled to relocate elsewhere on-airport to a vacant building in the NSA or off-airport in 2011 (at the end of their lease agreement). The relocation is independent of the Program and required to satisfy the space needs and/or consolidate the on-airport flight kitchen operations.



Construction Phasing

The following section describes the planned construction phasing of the SWSA Redevelopment Program. Figures 6.1 through 6.9 illustrate the construction phasing. The actual sequence and timing may change with considerations related to car rental operations, costs, and airport-wide ground transportation needs, but generally would consist of:

- Relocating and upgrading existing utilities;
- Constructing the ConRAC Customer Service Center (CSC);
- Constructing the ConRAC Garage structure;
- Constructing four Quick Turnaround Areas (QTA's) with surface storage parking;
- Relocating the Taxi Pool temporarily (through completion of the ConRAC) from the SWSA to Lot B (East of the Bird Island Flat garage);
- Demolishing the Flight Kitchen building;
- Relocating the Bus and Limousine Pools temporarily (through completion of the ConRAC) to NSA;
- Relocating/reconfiguring the Taxi Pool to its final location within the SWSA;
- Relocating/reconfiguring the Bus and Limousine Pools to its final location within the SWSA;
- Realigning Porter Street for improved Taxi Pool access;
- Constructing a bus-only ramp along Harborside Drive to connect the airport roadway system and the SWSA;
- Constructing Phase 2 of Massport's SWSA Landscape Edge Buffer; and,
- Constructing other site improvements including transportation mitigation measures (as outlined in Chapter 7, *Beneficial Measures/Section 61 Findings*).

These actions are supported by numerous enabling activities that re-organize the SWSA into multiple phases, eight in total, allowing for enough of the site to be cleared for staging and construction including:

- Sequenced demolition and relocation of those existing rental car facilities necessary to facilitate construction;
- Consolidation of approximately 13 acres for the construction of the garage, CSC, bus loop, QTA's, and roadway infrastructure;
- Temporarily reconfigure existing rental car facilities within the SWSA in order to construct consolidated parking garage; and
- Interim use of existing QTA and storage parking.

Construction phasing, staging and sequencing of the work will require early planning and collaboration with stakeholders to limit disruptions of car rental and other ground transportation activities. Construction will require temporary relocation of tenants within the SWSA to various adjacent sites at the Airport. Figure 6.10 shows the temporary relocation sites. Upon completion of Phase I, all rental car companies would be moved

into the completed portion of the Garage Structure and QTA facilities and rental car operations would open for business.

Phase I

Figure 6.2 illustrates Phase I construction activities, generally comprised of capturing areas and constructing temporary facilities. Activities in Phase 1 include the temporary relocation of the Bus and Limousine Pools to the NSA, the relocation of the Cell Phone Lot to a gravel lot located northwest of the Hotel Drive and Ramp D-S intersection, the reconstruction of SR-7/SR-10 intersection, and the temporary relocation of the Taxi Pool to Lot B. The projected schedule for Phase I is the third quarter of 2010 through the first quarter of 2011.

The temporary use of Lot B as the Taxi Pool will require modifications to the Lot B site, some temporary, some potentially permanent:

- A traffic signal would be installed at the Harborside Drive/Hyatt Driveway intersection, and maintained for the duration of Taxi Pool operations at Lot B;
- A segment of Harborside Drive, about 250 feet long, would be reduced from three lanes to two, downstream of the taxi access driveway to the site to make room for the taxi pool office. Traffic analysis of the Harborside Drive/Hyatt Driveway intersection with the narrowed Harborside Drive for the Phase I Construction period is contained below under "Traffic Maintenance";
- The west sidewalk of Harborside Drive along Lot B would be realigned to follow the temporarily relocated curb line; and
- Landscaping would be placed along the south boundary of Lot B, adjacent to the Hyatt Driveway.

Phase II

Figure 6.3 illustrates the Phase II construction activities. Phase II would require additional relocating and shifting of the SWSA occupants. Activities represented in this sequence include the demolition of the Taxi Pool and Bus/Limousine Pool buildings, expansion of the Alamo/National site to accommodate a relocated Enterprise, the construction of QTA 1 (foundations) and the QTA 2 (all building and site elements), potential relocation of the Avis storage off-site (location to be determined by Massport), the relocation within the SWSA of the long-term overflow commercial surface parking from the former Post Office Lot (to be accommodated in existing overflow lots elsewhere on-airport), the initial reconfiguration of the Hertz site, and closures of portions of and partial construction of Jeffries Street, Harborside Drive, Wellington Road and Tomahawk Drive. The construction area would then be cleared for new work, to allow for foundation work of the garage, CSC and bus ramp. Demolition and clearing for the major facility components would occur to support the start of some early foundation and site utility relocation work. The planned timeline for these activities is the first through the third quarter of 2011.

Phase III

Figure 6.4 illustrates the Phase III construction activities. Major vertical construction is anticipated to begin with this phase, starting during the first quarter of 2011 and completed by the third quarter of 2012. Improvements to portions of Porter Street, Harborside Drive and Jefferies Street would begin. Construction during this phase would include the Garage Structure, CSC, bus ramps, Hotel Drive Extension and the South portion of the service drive. Additional activities during this phase would include a modification to the Hertz

and Budget buildings and sites, construction of Tomahawk Drive (west) and occupation of the southeast corner of the Avis site to accommodate modification of SR-14 and construction of the elevated roadway. Additionally, the Flight Kitchen is relocating to the vacant structure the NSA or off-airport in 2011, to coincide with the end of their lease agreement, whether or not the SWSA Redevelopment Program proceeds.

Phase IV

Figure 6.5 illustrates the Phase IV construction activities, activity which would include continued construction of the Garage Structure, the CSC, and the bus ramp (south), the partial demolition of the Budget building and occupancy of the northern portion of their site, the demolition of the Flight Kitchen, allowing for the extension of Tomahawk Drive (east) and the expansion of Lot A (for use by the Logan Office Center), and the reconstruction of the Harborside Drive / Hotel Drive intersections. The anticipated partial occupancy of the newly constructed SWSA Garage Structure would include the temporary use of the lower level of the Garage Structure for Hertz (and possibly Budget and Avis) vehicle storage areas. The timeline of Phase IV construction is projected to be during the fourth quarter of 2012 and first quarter of 2013.

Phase V

Figure 6.6 illustrates the Phase V construction activities. Phase V would support partial occupancy of the lower levels of the Garage Structure as noted in Phase IV. Additional activities would include continued construction and RAC tenant fit-up of the Garage Structure, CSC and the completion of QTA 1, the extension of Tomahawk Drive (east) and the expansion of Lot A (for use by the Logan Office Center), and the reconstruction of the Harborside Drive/Hotel Drive intersections. The timeline of Phase IV construction is projected to be during the fourth quarter of 2012 and first quarter of 2013.

Phase VI

Figure 6.7 illustrates the Phase VI construction activities. Phase VI contains the “Date of Beneficial Occupancy” with the opening of the new ConRAC for rental car operations in the second quarter of 2013. At this time all occupants, including Thrifty (moved from off-site) would have moved into the CSC and into their respective allocated space within the Garage Structure Work would then begin on the demolition of the remaining Hertz and Budget facilities to allow for construction of QTA’s 3 and 4 and necessary connection roadways, the taxi pool, and remainder of the Phase 2 Landscape Buffer. Jeffries Street would be converted to one-way operation northeast bound. The existing Alamo/National/Enterprise QTA east of Jeffries Street and the Dollar QTA north of Porter Street would remain operational to assist with any service overflow needs for the rental car companies during construction of the final QTAs. After Avis departs from the north side of the SWSA, all buildings would be demolished, the site cleaned and then prepared to receive the relocated/reconfigured Taxi Pool. The northwest portion of the Service Drive would be constructed, and a portion of Porter Street would be improved. The activity timeline for this phase starts in the first quarter of 2013 and lasts until the third quarter of that same year.

Phase VII

Figure 6.8 illustrates the Phase VII construction activities, which reflects the final construction activities for the project’s redevelopment. This phase would begin with the construction and occupancy of the new Taxi Pool at the former Avis site north of Porter Street. After the Taxi Pool is relocated to its permanent location at

the SWSA, it is expected that the use of Lot B will revert back to parking. Alamo / National / Enterprise as well as Dollar / Thrifty would move into their respective newly completed QTA's (3 and 4). In addition, this phase clears the site that Alamo/National/Enterprise previously used for the QTA and vehicle storage activities during the ConRAC construction. After clearing, this area would be prepared for the relocation of the Bus/Limo Pool back to the SWSA along with the long-term overflow commercial surface parking. The Service Road/ Porter Street intersection and the bus staging area will also be completed during this phase. The timeline of Phase VII is projected to start early in the fourth quarter of 2013 and end in the first quarter of 2014.

Phase VIII

Figure 6.9 illustrates the Phase VIII construction activities, which represents the completion of SWSA Redevelopment Program. In summary, the full build-out of the 2018 Build Condition includes the following (also refer to Table 1-1 of Chapter 1, *Proposed SWSA Redevelopment Program*):

- 1,200,000 gross square feet (GSF) of the Garage Structure Levels 1, 2, 3 and 4 (3,120 parking spaces of ConRAC "Ready Space" and vehicle storage);
- 113,000 GSF building for the CSC;
- 112,000 GSF buildings for the QTA facilities (in the form of four separate structures);
- 1,250 rental vehicle storage (at-grade, surface parking);
- 7,000 GSF building for the Taxi Pool;
- 310 taxi queuing spaces (at-grade, surface parking);
- 2,500 GSF of the Bus/Limo Pool;
- 370 bus and limousine spaces (at-grade, surface parking);
- 233 long-term overflow commercial parking spaces (at grade, surface parking);
- Significant roadway improvements throughout the airport; and,
- Phase II Landscape Buffer program.

Temporary Construction Period Impacts and Proposed Mitigation Measures

The reduced construction period and phasing would result in reduced construction-related impacts (specifically, traffic, air, and noise). All construction-related mitigation, previously proposed in the 2008 Draft EIR/EA and 2009 NPC, would be implemented.

Under FAA Orders 1050.1E, Change 1 and 5050.4B, a significant adverse effect occurs when the construction would create significant impacts that could not be mitigated. The environmental consequences of project construction must be evaluated in terms of dust, aircraft and heavy equipment emissions, stormwater runoff containing sediment and/or spilled or leaking petroleum, and noise.

Methods of construction for the SWSA Redevelopment Program are currently being developed. In general, a pre-cast concrete structure would be used for the parking garage and CSC with concrete shipped to the site as

required. The bus ramps would also be pre-cast concrete. A cast-in-place concrete option will also be considered for efficiency and cost comparison analyses. The actual construction methods would likely not be finalized until a contractor or construction manager has been chosen and placed under contract.

Construction impacts are considered under each of the individual impact review categories. During construction there would be limited short-term impacts from added vehicle trips to and from the site by construction equipment, fugitive dust, noise, negligible amounts of sediment added to the area's stormwater collection system, and demolition materials and other routine construction wastes in need of proper disposal. Minor, transient audible disturbances may occur during the construction period.

Massport specifically prohibits delivery of materials through residential streets, creation of borrow pits and disposal of spoil, burning of debris, and water pollution from erosion. In addition, Massport will require that the project design and construction planning would incorporate appropriate environmental protection measures. All construction impacts would be mitigated as required by construction contracts, therefore, a significant adverse effect would not be allowed to occur.



Erosion and Sedimentation Control Program

An Erosion and Sedimentation Control Program will be put in place to minimize construction phase impacts to Boston Harbor and adjacent resources. The proposed SWSA Redevelopment Program will be designed to comply with the requirements of the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges from Construction Activities (discussed below), which requires the filing of a Notice of Intent and a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP includes weekly inspections to verify compliance. The Program will also incorporate Best Management Practices (BMPs) specified in guidelines developed by the Massachusetts Department of Environmental Protection (DEP) and the U.S. Environmental Protection Agency (EPA).²

As described in Chapter 5, *Natural Resources and Drainage*, the proposed stormwater system will be designed in accordance with the existing airport NPDES permit requirements, including monthly and quarterly water samples. The new permit (effective on September 29, 2007), which replaces the old NPDES Permit regulates stormwater discharges from the North, West, Northwest, Porter Street, and Maverick Street Outfalls, and all of the airfield outfalls. Supporting calculations and design information are provided in Appendix G to demonstrate conformance with the stormwater regulations and NPDES permit.

A key goal of Massport is to meet the requirements of Leadership in Energy and Environmental Design certification and attempt to achieve (LEED®) Silver/ Massachusetts LEED Plus. Construction activity pollution prevention measures would include the installation of temporary erosion and sedimentation controls and construction sequencing. Areas of exposed soil would be kept to a minimum and a vegetative cover, or other forms of stabilization, would be established as soon as feasible.

To keep mud and stones from reaching the airport roadways adjacent to the SWSA, a paved apron just inside the entrance/exit gate would be built and maintained. On this paved apron, vehicle wheels will be washed before entering and driving on the airport roadways. If any material is deposited on the roadways, a motorized sweeper would be available to remove the all debris and soil material.



² United States Environmental Protection Agency, *Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices*, 1992.

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Soil and Groundwater Conditions

The construction activities required are not expected to require extensive site cuts or dewatering. Site-intrusive activities, such as excavation and grading, utility trenching, and pre-excavation for obstructions, would be reviewed by a Licensed Site Professional (LSP) before construction begins, and would be monitored by the LSP during construction.

Prior to the start of Phase I, construction areas would be silt-fenced and/or hay-baled in compliance with EPA Remediation General Permit requirements before any of the surface area is disturbed. In addition, storm water will be directed to sedimentation control basins (which may be above or below grade depending on site constraints). During construction these run-off/sedimentation controls would be maintained and replaced or reconfigured as construction mandates. These stormwater run-off controls would minimize the impacts to the area surrounding the project work site. By preserving the natural grading as much as possible, the stormwater run-off that leads to erosion can be kept under control. Upon completion of the project, all changes in the grading would gradually blend into the surrounding area drainage patterns, where the storm water would flow into the new and existing catch basins. The permanent storm water drainage system will incorporate oil/water separators and/or stormceptor devices as required.

All but one of the Release Tracking Numbers (RTNs) associated with the SWSA have been closed out, with three resulting in the filing of an Activity and Use Limitation (AUL). The remaining RTN (3-28792) was reported on October 29, 2009 as a result of soil investigation related to the ConRAC and response actions are ongoing. The three AUL areas will require that a Soil Management Plan be developed by a Licensed Site Professional (LSP) and submitted to the DEP prior to construction within those areas. For areas that are covered by existing RTNs and where information exists regarding site contaminants and past releases of oil or hazardous materials, all site-intrusive activities would be covered by Release Abatement Measure plans filed with the DEP, as appropriate. The construction SWPPP would include provisions for responding to any releases that result from construction activities, such as fuel or hydraulic fluid spills.

Workers engaged in construction activities in areas where oil or hazardous materials are present in amounts or concentrations above reporting thresholds may require training. Training requirements would be consistent with 29 CFR 1910.120 (Hazardous Waste Operations and Emergency Response), and contractors and others involved in site-intrusive activities would be required to document that their personnel have received the training required for their proposed role on the site, including the applicable annual refresher training. Available information on site conditions and contaminants would be provided to the contractors, who would be required to develop and implement appropriate site-specific hazardous materials health and safety plans.

Excavated soils generated during construction activities would be reused onsite to the greatest extent possible. Surplus excavated soils would be removed from the site for reuse or disposal, as required by DEP solid waste and the Bureau of Waste Site Cleanup policies, under the provisions of a site-wide soils management plan and under the oversight of the LSP and in accordance with Massport's Soil Management Policy. Soils that require stockpiling on site before they can be reused or removed from the site would be placed in designated areas away from contiguous residential areas. Stockpile areas would be provided with erosion and sedimentation controls to prevent sediment runoff, and dust controls would be implemented as required. Heavily contaminated soils would be stockpiled on and covered with polyethylene sheeting or placed in containers.

Construction activities are not expected to require extensive dewatering, but some groundwater would be encountered during excavations for utilities and during pre-excavation for shaft or pile foundations. Discharge of groundwater to the storm drainage system, as described above, would be monitored by the LSP. In areas where heavy hydrocarbon contamination may prevent direct discharge through conventional sedimentation controls, the LSP may direct further groundwater treatment measures to ensure that discharges comply with regulatory standards. These measures may include oil/water separation devices, filters, or air-stripping devices, depending on contaminant levels in the groundwater and the required discharge standard. The alternative of on-site reinjection also would be explored.



Construction Traffic

Construction activities will require truck access for delivery of materials, equipment and other items. Construction workers would generally not be allowed to park on site. Some workers would park off site and be shuttled to the site; others would use public transportation. A limited number of parking spaces would be reserved for construction supervisory personnel.

Truck Traffic

The estimated number of daily truck arrivals and total truck trips (arrivals plus departures) associated with construction is shown on Table 6-1 below for each quarter from 2011 through 2015.

Table 6-1
ConRAC Daily Construction Truck Volume

Quarter	2011				2012				2013				2014				2015	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2
Total Daily Arrivals	42	44	60	65	92	94	100	94	67	68	42	28	19	29	34	25	25	25
Total Daily Trips	84	88	120	130	184	188	200	188	137	136	84	56	38	58	68	50	50	50

The peak period for truck activity is anticipated to be from the first quarter of 2012 through the fourth quarter of 2012, generally associated with Phase III and Phase IV construction activities. The peak quarter of truck activity is expected to be in the third quarter of 2012 with 200 estimated daily construction truck trips. The derivation of these truck volumes is explained below. Figure 6.11 shows the proposed truck routes. Figures 6.12 and 6.13 show the peak hour construction traffic volumes for 2013.

Pedestrian and bicycle traffic will continue to be maintained adjacent to or near the SWSA site during all phases of construction.

Truck Route

Massport's agreement with the Contractor or Construction Manager would specify that direct construction truck traffic access to a staging/laydown area within the SWSA construction site be utilized as much as possible during the duration of construction. However, there could be times during peak garage erection that precast concrete structural members would need to be staged within an off-site location. Due to oversized vehicle restrictions of the Harbor Tunnels and the planned construction of the Chelsea River Bridge in 2012,

Massport will not locate any staging/laydown area within South Boston or Chelsea. Although a specific site has not been identified, the most likely location for the staging/laydown area, if necessary, would be along McClellan Highway (Route 1A), north of Neptune Road. A site in this general area would provide excellent access to the regional highway network and the SWSA construction site. It is anticipated that all deliveries from construction suppliers to this Route 1A staging/laydown site would be via Route 1A southbound, in most cases because oversize loads would be prohibited from the Callahan and Ted Williams Tunnels.

Truck trips directly to the SWSA site are anticipated to come from all directions and would be routed in any of the following ways (Figure 6.11):

- Access via McClellan Highway (Route 1A) southbound and Ramp 1A-S; egress via SR-14, SR-2, and the Airport Exit ramp from Terminal E to Route 1A northbound. (Note: Trips between the potential Route 1A staging area would use these routes)
- Access via Callahan Tunnel, Route 1A Northbound, and Ramp 1A-S; egress via SR-14, SR-2, the Airport Exit ramp from Terminal E, Route 1A Southbound, and Sumner Tunnel
- Access via Ted Williams Tunnel, Ramp T-S, Hotel Drive, and Harborside Drive; Egress via Harborside Drive, Ramp S-T, and Ted Williams Tunnel.

After Ramp 1A-S is relocated to make room for new Ramp S-D, SR-14 would become one-way southbound, and thus, unavailable for the egress route to Route 1A and the Sumner Tunnel. At this time, construction vehicles would be directed to egress via Harborside Drive, Hotel Drive, SR-2 to the Airport Exit ramp from Terminal E.

Coordination with Other Construction Activities

An interim addition of approximately 1,000 commercial structured parking spaces at the Robie Parcel (an airside parcel slated for future aviation activity for the long-term) has been proposed to be complete in late 2010. This additional parking would be consistent with the DEP Parking Freeze. (Refer to Appendix D for further details.) With a construction completion date of late 2010, there would be no overlap of trucking activity between this project and the major construction period of the Program (between mid-2011 and 2013).

It is anticipated that Terminal B garage structural repairs would be ongoing during the first half of 2012, the peak year of SWSA Redevelopment Program construction activity. Because the Terminal B work is reconstruction of an active passenger terminal facility that requires minimal operational changes, the bulk of the work and associated construction truck activity, is expected to occur during the off-peak and overnight hours, while the SWSA Redevelopment program is expected to be day shift work. Thus, minimal conflict in trucking activity between the two projects is anticipated.

The construction of the proposed Bus Maintenance Facility in the NSA is anticipated to be ongoing through 2012 following MEPA/NEPA review and associated permitting. With a site location in the NSA and a small amount of oversized construction vehicles anticipated, construction truck routes would likely be restricted to Frankfort Street on-airport and SR-2 resulting in minimal overlap with SWSA construction along SR-2. Also occurring during the SWSA Redevelopment's construction timeframe is Massport's planned enhancements of the runway safety areas on the airside portion of the Airport. The majority of construction material is anticipated to be delivered from the water via barge and no major conflicts or overlaps in truck traffic are anticipated between the two projects. Additional construction analyses will be conducted as part of the environmental review for these planned projects.

Truck Volumes

An estimate of the types and numbers of pieces of heavy equipment required on the SWSA per work shift is shown on Table 6-2 below presents the types and number of construction equipment for each quarter from 2011 through 2015. Of these types of equipment, the following would enter and leave the site for each work shift:

- Bituminous Paver
- Cold Planer
- Concrete Pump Truck
- Concrete Transit Mixer
- Dump Trailer
- Dump Truck
- Hydroseeder
- Paint Truck
- Tack Truck
- Truck and High Bed Trailer
- Utility Truck

Table 6-2
Construction Equipment Requirements by Quarter

ConRAC Equipment Estimate					Phase I														
Equipment - Motor	Year: Quarter:	2011				2012				2013				2014				2015	
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2
Aerial Lift		1	1	1	8	10	10	10	10	10	10	5	2	1	1	1	1	1	1
Auger																			
Backhoe		3	2	2	3	1	1	1	2	2	2		1	1	1	1			
Bituminous Paver				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bulldozer		1	1	1	1	1	1		1	1	1								
Chipper																			
Cold Planer														1	1	1	1	1	1
Concrete Pump Truck						1	1	1	1	1	1				1	1			
Concrete Transit Mixer				5	5	5	5	5	5	5	5				2	2			
Concrete Paver																			
Crane Mobile		1	1	1	2	2	2	2	1	2	2	1							
Crawler Crane		1	1	1	3	3	3	3	1	1	1	1							
Drilled Shaft Machine		2	2	2	2														
Dump Trailer		3	3	3									2	2	2	2	2	2	2
Dump Truck		12	12	20	20	10	12	10	10	10	15	5	1	1	2	5	5	5	5
Excavator		1	1	1				1	1										
Feller/Buncher																			
Forklift			1	1	1	1	1	1	1	1	1	1							
Grader		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hydro seeder												1	1	1					
Loader		2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Material Handler Hoist				1	2	2	2	2	2	2	2	2	2		2	2			
Paint Truck			1						1								1	1	1
Primer Truck																			
Reclaimer																			
Dirt Roller				1		1	1	1		1	1	1				1	1	1	1
Pavement Roller				1												1	1	1	1
Skid Steer		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Skidder																			
Sweeper		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tack Truck								1	1	1	1	1	1	1	1	1	1	1	1
Tractor																			
Trimmer																			
Truck and High Bed Trailer		4	4	4	4	35	35	42	37	4					4	4			
Utility Truck		1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1
Vacuum Truck			1	1															
Light Vehicles (Pick-ups)		6	6	6	6	6	6	6	6	12	12	12	12	6	6	6	6	6	6
Water Truck																			
Welding Machine		1	1	1	2	8	8	8	8	8	8	6							

Note: Numbers Denote (avg.) Equipment/Shift

The tabulated quantities of each of these equipment types represent the number of heavy truck arrivals per work shift associated with each type per quarter. In addition to these heavy trucks, light (pick-up) trucks would be required, in numbers per work shift roughly corresponding to the number of subcontractors on the site in each quarter. Many of these light trucks would make multiple trips to the site per work shift. It is expected that construction would take place primarily during the day shift, approximately 7:00 AM to 3:30 PM. Thus, the daily truck volume to and from the site would be the number of truck trips per work shift.

Traffic Maintenance

Vehicular traffic flow on the airport service roadway network during construction will be managed so that the quality of traffic flow would not deteriorate relative to the No-Build/No-Action Conditions (2013 and 2018). Pedestrian and bicycle traffic would be accommodated throughout the construction period adjacent to or very near the SWSA on a public way.

Short-Term Construction Traffic Volumes

The time period identified for analysis is the third quarter of 2012, the time of peak construction activity. Morning and afternoon peak hourly traffic volumes have been analyzed. The base traffic volumes used to create the 2012 Construction Condition traffic volume forecast are the 2013 No-Build/No-Action Condition volumes. Forecast trips to and from have been reassigned to reflect the following relocations as shown in Phase IV construction activity (Figure 6.5):

- Cell Phone Lot relocated to a location at the new Hotel Drive and SR-2 intersection;
- Taxi Pool temporarily relocated to Lot B;
- Bus and Limousine Pool temporarily relocated to a location within the NSA;
- Elimination of the long-term overflow commercial parking lot from the SWSA (Old Post Office Lot);
- Reconfiguration of access to Hertz and Budget operations within SWSA; and
- Relocation of Enterprise operation to the expanded Alamo/National operation located east of Jefferies Street.

Construction generated traffic volumes have been added to the adjusted base volumes. It is expected that construction work would be day shift only as stated above, thus, the morning peak hour would be impacted by construction traffic, but the afternoon peak hour would not. Daily truck volumes above are assumed to be uniformly distributed across one 8-hour shift (Table 6-1).

Construction workers would generally not be allowed to park on-site. Some workers would park off -site and be shuttled to the site; others would use public transportation. A limited number of parking spaces would be reserved for construction supervisory personnel. Twelve trips to the site have been assigned to represent morning peak hour trips by supervisory personnel. Ten trips to and from the site have been assigned to represent morning peak hour worker shuttles.

Roadway Network

The following changes to the 2013 No-Build/No-Action Conditions roadway network have been incorporated to represent the 2012 Construction Condition network:

- Tomahawk Drive and the Wellington Street/Tomahawk Drive connector would be discontinued as they become part of the SWSA Redevelopment site;
- The intersection of Harborside Drive and Hyatt Drive will be under traffic signal control, modification associated with the Taxi Pool relocation to Lot B,
- The intersection of Frankfort Street and Lovell Street will be under traffic signal control, modification associated with the Bus and Limousine Pool relocation to the NSA, and
- Two of the four southbound approach lanes of SR-14 near Porter Street are assumed to be taken for bus overpass construction.

For the 2012 Construction Condition, Jeffries Street would remain two-way and Hotel Drive extension would not have yet been completed. The 2012 Construction Condition morning and afternoon peak hourly traffic volumes are shown on Figures 6.12 and 6.13, respectively.

Analysis Results

To determine the effects of construction-related traffic on project-area roadways, the 2012 Construction Condition has been compared to the 2013 No-Build/No-Action Condition (i.e., those conditions that would result without the SWSA Redevelopment Program or any of its construction). Table 6-3 below shows predicted levels of service and volume-to-capacity ratios for intersections under the 2012 Construction Conditions.

The Future No-Build/No-Action Conditions were described and presented in detail as part of the Chapter 3, *Surface Transportation*, for the Project and they are presented here for ease of comparison.

Table 6-3
Construction Traffic Conditions (2012)

Location/Movement	AM Peak Period				PM Peak Period			
	2013 No-Build/ No-Action Condition		2012 Construction Condition		2013 No-Build/ No-Action Condition		2012 Construction Condition	
	LOS ¹	v/c ²	LOS	v/c	LOS	v/c	LOS	v/c
2012 Construction Condition Signalized								
Level of Service								
Harborside Drive/Porter Street/SR-14/Ramp 1A-S	C	0.49	C	0.41	C	0.69	C	0.57
Harborside Drive/Jeffries Street	B	0.49	B	0.34	C	0.71	B	0.55
Harborside Drive/ Hotel Drive	A	0.39	B	0.52	A	0.62	B	0.63
Hotel Drive/Airport Way/Ramp T-S	B	0.44	B	0.54	C	0.68	A	0.28
Hotel Drive/ Ramp D-S	B	0.30	B	0.36	B	0.35	B	0.53
Hotel Drive/SR-2	B	0.35	N/A	N/A	C	0.52	N/A	N/A
Frankfort Street/Route 1A NB off-ramp/Dave's Way	A	0.22	B	0.33	B	0.45	C	0.65
Neptune Road/Route 1A off-ramp	B	0.40	B	0.40	C	0.35	C	0.35
Frankfort Street/Lovell Street ³	-	-	B	0.43	-	-	C	0.62
Harborside Drive/ Hyatt Driveway	A	0.15	A	0.19	A	0.16	A	0.28
2012 Construction Condition Unsignalized								
Intersection Level of Service								
SR-2/Cottage Street/SR-144	A	0.12	A	0.17	A	0.18	A	0.32
Harborside Drive/Bus Pool (National-Alamo) Drive	A	0.22	A	0.20	A	0.39	A	0.36
Frankfort Street/Lovell Street ³	A	0.32	-	-	A	0.29	-	-

¹ Level of service

² Volume-to-capacity ratio

³ Frankfort St/Lovell is Unsignalized in the 2013 No-Build/No-Action Condition and Signalized in the 2012 Construction Condition.

⁴ SR-2/ Cottage Street/ SR-14 is signalized, operating in flashing mode. It is analyzed as a stop condition.

Traffic operations at the Frankfort Street/Lovell Street intersection, which would be signalized and include a widened northbound Frankfort Street approach, as described in Chapter 3, *Surface Transportation*, would operate at an acceptable level of service during both the morning and afternoon peak hours.

The Harborside Drive/Hyatt Driveway intersection, which would be signalized for the duration of taxi pool operation at Lot B, would operate at an acceptable level of service during both the morning and afternoon peak hours.

For the morning peak hour, the remaining studied intersections would experience very little change with traffic volumes up or down slightly due to temporary facility relocations. In both the No-Build and Construction Condition cases, traffic would operate at an acceptable level of service.

For the afternoon peak hour, with no action, the level of service at the Harborside Drive/Hotel Drive and Frankfort Street/Route 1A NB off-ramp/Dave's Way intersections would deteriorate somewhat because of the relocations of the Taxi, and Bus and Limousine Pools. Temporary signal timing adjustments at these locations will be implemented as part of the Lovell Street and Hyatt Drive traffic signal installations to help offset these minor impacts.

Pedestrian Impacts

Every effort would be made to maintain the Harborside Drive sidewalk adjacent to the site continuously during construction. If it became necessary to close this sidewalk temporarily for bus ramp construction, the closure period would be kept to a minimum, and pedestrians would be diverted to the other side of Harborside Drive. In any event, the signalized crossings of Harborside Drive at Porter and Jeffries Streets would be maintained. By maintaining sidewalks on Harborside Drive and the signalized crossings, the pedestrian pathway to Terminal A and the South Cargo Area, would not be impeded.



Air Quality and Fugitive Dust

The construction of the SWSA Redevelopment Program would generate air emissions associated with demolishing existing buildings, site preparation activities, and building of the new facilities as well as with construction vehicles and temporary traffic due to interim relocations. These air emissions would be temporary and are associated with construction vehicles/equipment exhaust, stockpiles of raw materials, and the effects of wind erosion over the SWSA. Air quality impacts due to construction are quantified below.

Construction Emissions Analysis Methodology

The construction air quality analysis is based on the construction requirements anticipated for the SWSA Redevelopment Program derived from concept planning, project phasing and other development features. This information and data include the types of construction vehicles/equipment (i.e., dozers, scrapers, cranes, trucks, etc.), fuel types (i.e., diesel/gasoline) and their expected operating times, and vehicle miles traveled (VMT). This air quality analysis also includes the projected increase in VMTs associated with the temporary relocation of the Taxi Pool to Lot B and the Bus and Limousine Pools to the NSA as well as other temporary relocations (refer to the 'Short-Term Construction Traffic Volumes' section above). Emission factors were obtained from the U.S. EPA NONROAD and MOBILE6.2 emission models.

Because the 2007 Existing Condition and future No-Build/No-Action Conditions do not involve construction activities, construction-related emissions associated with these conditions are not analyzed.

Construction Emissions Analysis Results

The Revised SWSA Redevelopment Program five-year construction period is expected to occur from 2011 to 2015. The principle sources of construction-related emissions include heavy duty equipment (such as loaders, cranes and backhoes), raw and waste material haul trucks, and construction worker vehicles.

As shown in Table 6-4, the predicted construction-related emissions range from 4.8 to 29.5 tons per year for NO_x, from 0.6 to 4.1 tons per year for VOCs, and from 12.9 to 46.8 tons per year for CO. These values are well within the applicable CAA General Conformity Rule *de minimis* levels of 50 tons for NO_x/VOCs and 100 tons for CO and, therefore, automatically conform to the SIP. Therefore, the emissions are assumed under federal regulations to comply with the State Implementation Plan and a formal General Conformity determination is not required.

Table 6-4
Construction-Related Emissions Analysis Results (tons/year)

Pollutant	Year					De minimis Levels
	2011	2012	2013	2014	2015	
NO _x	18.3	29.5	14.9	10.0	4.8	50
VOCs	2.5	4.1	2.7	1.4	0.6	50
CO	35.9	46.8	38.7	26.7	12.9	100

NO_x - nitrogen oxides, VOCs - volatile organic compounds, CO - carbon monoxide

During the construction period, emissions attributable to the vehicle miles traveled (VMT) associated with the temporary relocation of the taxi and bus/limo pools will also occur. Under the CAA General Conformity Rule, the construction emissions are considered to be “project-related” and are additive to the operational emissions associated with the Revised SWSA Redevelopment Program and the construction-related emissions listed in Table 6-4. These combined results are summarized in Table 6-5 below for the 2013 Interim Build (the year in which operational emissions related to the project and construction emissions occur). As shown, these values are also well within the applicable CAA General Conformity Rule *de minimis* levels of 50 tons for NO_x/VOCs and 100 tons for CO and, therefore, automatically conform to the SIP. Therefore, the emissions are assumed under federal regulations to comply with the State Implementation Plan and a formal General Conformity determination is not required.

Table 6-5
Combined Construction- and Operational-Related Emissions Analysis Results in tons/year (2013)¹

Unified Bus System Fuel Option	Pollutant	2013 No-Build /No-Action Condition ²	2013 Interim Build Condition	Difference	<i>de minimis</i> Levels
Clean Diesel Hybrid	NO _x	36.9	29.5	-7.4	50
	VOCs	9.7	11.6	1.9	50
	CO	177	198	20.5	100
CNG	NO _x	36.9	37.2	0.3	50
	VOCs	9.7	12.4	2.7	50
	CO	177	199	22.2	100

NO_x – nitrogen oxides, VOCs – volatile organic compounds; CO – carbon monoxide

CNG – compressed natural gas

Differences = 2013 No-Build/No-Action Condition minus the 2013 Interim Build Condition

1 The combined air emissions for the year 2013 associated with the Interim Build Condition (Program-related operational emissions) and temporary construction activities.

2 This condition does not include the Unified Bus System and, therefore, emissions are not associated with the fuel type options.

Construction Emissions Beneficial Measures

Massport is committed to the mitigation of construction-related emissions at the airport through the implementation of several emission reduction requirements and initiatives that are already in place. Massport will require the contractor to utilize ultra-low sulfur diesel fuel for off-road construction vehicles and/or equipment. Construction contracts will require that gasoline and diesel motorized construction equipment be well maintained and in good running order during the work effort on the SWSA Redevelopment Program.

Compliance with these requirements will be monitored by field inspection staff, who also will verify compliance with idle reduction. City and Massachusetts Clean Air Quality requirements would be enforced during the construction phase of the SWSA Redevelopment Program.

The construction site will be monitored continually during construction operations for airborne dust. During the dry periods, water would be applied on adjacent roadways and work areas that are causing dust to enter the atmosphere. Operations such as concrete demolition, grinding, chipping, and coring would have the work area wet by water misting or by a fire hose to suppress dust during the work.

DEP Clean Construction Equipment Initiative

The construction of the SWSA Redevelopment Program will comply with the requirements of the Clean Construction Equipment Initiative aimed at reducing air emissions from diesel-powered construction equipment. In support of the state and federal DEP Clean Construction Equipment Initiative and Clean Air Construction Initiative, respectively, Massport requires that construction contractors install emission control devices, such as diesel oxidation catalysts and/or diesel particulate filters on certain equipment types (front-end loaders, backhoes, excavators, cranes, and air compressors).³ Idle reduction and dust and odor control would also be addressed.



Noise

The construction of the SWSA Redevelopment Program would generate noise associated with construction activities, which would be restricted by the City of Boston construction noise ordinances. All increases in noise would be temporary. Noise impacts due to construction are quantified below.

Projected Construction Noise Levels

The SWSA Redevelopment Program would generate typical sound levels from construction activities, including foundation construction, truck movements, heavy equipment operations, and general construction activities. Heavy machinery would be used intermittently throughout construction and these activities would occur during normal weekday working hours, typically 7:00 AM to 6:00 PM as specified in the City of Boston noise ordinance.

Construction noise is a function of the number and types of equipment being used and the distances between the construction equipment and the noise-sensitive areas. Overall construction noise levels are governed primarily by the noisiest pieces of equipment operating at a given time. Table 6-6 provides typical maximum sound levels associated with various types of construction equipment to be used at the SWSA during various construction phases. During any particular activity phase, multiple pieces of equipment may operate simultaneously and for various durations throughout the construction period. Detailed projections of overall noise levels would require specific equipment use that is not yet available.



3 The goal of these initiatives is to reduce the emissions associated with construction equipment. The effort involves retrofitting heavy construction equipment with emission control devices designed to reduce the amount of air pollution (volatile organic compounds (VOCs), carbon monoxide (CO), and particulate matter (PM)) emitted from the vehicle.

The highest noise levels during construction are expected to be caused by pile driving. During an approximately six- to eight-month period, up to 40 piles a day may be driven. Because of the size of the project site, however, pile driving would only occur in the immediate vicinity of any given residence for a relatively short period of time. Piles would be pre-augured through the upper 60 feet or more of soils, reducing the number of hammer blows required to seat the piles, therefore reducing the noise impact on the community. Pile driving will be required to comply with a project-specific noise specification that will reflect the requirements of City of Boston noise ordinances, and will restrict the types of equipment.

Table 6-6
Typical Construction Equipment Maximum Noise Levels

Activity	Equipment	L _{max} at 50 feet (dBA)
Building Demolition	Excavator	81
	Mounted Impact Hammer (hoe ram)	90
	Shears (on backhoe)	96
	Flat Bed Truck	74
Building Construction	Crane	81
	Man Lift	75
	Grapple (on backhoe)	87
	Concrete Mixer Truck	79
	Concrete Pump Truck	81
	Excavator	81
	Flat Bed Truck	74
Building Foundations	Crane	81
	Impact Pile Driver	101
	Vibratory Pile Driver	101
	Concrete Mixer Truck	79
	Concrete Pump Truck	81
	Excavator	81
	Grapple (on backhoe)	87
	Auger Drill Rig	84
	Flat Bed Truck	74
Earthwork	Scraper	84
	Dozer	82
	Roller	80
	Tractor	84
	Excavator	81
	Flat Bed Truck	74
	Grader	85
Bituminous Paving	Paver	77
	Roller	80
	Front End Loader	79
	Vacuum Street Sweeper	82
	Flat Bed Truck	74
Concrete Paving	Concrete Mixer Truck	79
	Grader	85
	Roller	80
	Excavator	81
	Flat Bed Truck	74

Source: Federal Highway Administration, Roadway Construction Noise Model, Version 1.0, February 2006; HMMH, 2008.

North Service Area

As previously mentioned, during construction the Bus and Limousine Pools will be relocated temporarily from the SWSA to the NSA. Bus/limousine routes and parking will be located 200 feet or more from the closest residences (Swift Terrace) and the NSA is separated from the temporary Bus and Limousine Pool area by the MBTA Blue Line tracks. Also, ambient noise includes traffic on Route 1A and Bennington Street. It is for these conditions that any temporary activities in this area are expected to cause insignificant noise impacts to nearby residential areas.

Construction Noise Attenuation Measures

A number of measures, which have been successfully used in recent Logan Airport construction projects, will be implemented to control the noise from construction activities. The following are possible attenuation measures that may reduce temporary construction noise impacts within the surrounding community:

- Create temporary berms with excavated soils to serve as barriers between noisy activities and noise-sensitive receptors;
- Re-route truck traffic away from local residential streets;
- Place equipment on the site as far away from noise-sensitive receptors as possible;
- Use specially quieted equipment, such as quiet and enclosed air compressors and mufflers on all equipment;
- Use ambient sensing, manually adjusting, or detector type backup alarms on all equipment;
- Route truck traffic so backing up is minimized or not required;
- Use “noise tents” to reduce the noise from activities such as jack hammering or other small equipment when necessary; and
- Make the community aware of the steps being taken to reduce noise and publicizing the schedule of activities with the potential to generate high noise levels.

Additionally, prior to and following pile driving activities, Massport will require the construction contractor to closely inspect abutting homes to ensure that there are no changes in the conditions of these homes due to pile driving activities. Written reports will be developed and kept on file for future reference.



Solid Waste Disposal

Recycling would take place during the demolition of the existing above ground building structures, along with the below-ground foundation slabs and footings, plus all other surface asphalt and concrete that is removed for construction purposes. Material such as steel, aluminum, copper, cement and bituminous concrete would be separated at the site and hauled to the proper facility for recycling. The contractor will attempt to stockpile material, such as clean excavated soil, gravel, and crusher-run base material on-site and used for backfill and base material for surface parking areas, if feasible.

Surplus soil and concrete/masonry materials would be transported to permitted off-site reuse or disposal facilities. Soils removed from the site would be managed in accordance with DEP Solid Waste Regulations and requirements of the DEP Bureau of Waste Site Cleanup, as appropriate. It is anticipated that the majority of excavated soil removed from the site would be appropriate for reuse at unlined or lined landfills in accordance with DEP Policy COMM 97-001. This would be confirmed by chemical testing of soils before arranging for transportation off -site. These soils would be managed using the DEP Bill of Lading (Form BWSC 012) or Material Shipping Record process, as appropriate.

Surplus bituminous and cement concrete/masonry materials resulting from demolition or construction would be managed in accordance with DEP Solid Waste Regulations, specifically the provisions of 310 CMR 19.000 which direct the recycling of so-called "ABC" (Asphalt, Brick, and Concrete) materials. This would require attention in contract provisions to documenting that the destination facilities are properly site assigned or exempted from site assignment and to separation of any coated or contaminated concrete or masonry elements from the waste stream.

During the pre-construction phases as well as during construction, buildings and structures requiring demolition would be surveyed for asbestos-containing materials (ACM). This would include utility manholes and structures such as duct banks and drainage piping. Older duct-bank structures frequently contain asbestos in conduits. Older drainage structures can also include asbestos in the form of asbestos-cement (Transite™) pipe or corrugated metal pipe with asbestos-reinforced mastic coatings. ACM identified during the pre-construction surveys or discovered during construction would require abatement in accordance with DEP regulations (310 CMR 7.15).

Beneficial Measures/ Draft Section 61 Findings

Introduction

In accordance with the Secretary's Certificate on the 2009 NPC, issued December 23, 2009, this chapter provides a summary of mitigation and/or beneficial measures Massport plans to undertake in order to avoid, minimize, and/or mitigate potential environmental impacts as a result of the SWSA Redevelopment Program. The draft Section 61 Findings, for use by Massport and State agencies during each individual permitting process, are in Appendix G.

As presented in the 2009 NPC and herein, the SWSA Redevelopment Program is expected to result in positive environmental effects to the airport and the surrounding community. As demonstrated by the updated environmental impact analyses provided herein, the Program would improve environmental conditions over the future No-Build/No-Action Conditions under a number of environmental impact categories (specifically, surface transportation/traffic, air quality, and drainage). The Program includes a number of measures that are expected to benefit the environment, such as:

- Surface traffic access/egress/circulation and other transportation-related initiatives, such as roadway and signalization improvements and the Unified Bus System would improve traffic flow and reduce vehicle-miles-traveled (VMT) and, therefore, would have substantial air quality benefits;
- Site design, including an improved stormwater management system, noise reduction measures, and removal and upgrade of underground storage tanks and remediation (as required);
- Sustainable building design elements, including specific performance criteria and/or targets for energy demand (20 percent efficiency), including an on-site renewable energy (e.g., solar or wind), reduced water consumption (30 percent efficiency), wastewater reduction (including car wash water reuse), improved indoor environmental quality, and environmentally-friendly building materials;
- Construction management, including recycling and diverting construction waste from landfills; and
- Sustainable operational elements, including recycling (a goal of minimum 50 percent of waste stream).

By including these environmentally beneficial design measures as part of the SWSA Redevelopment Program the project would result in substantial environmental benefits and there will be no significant long term environmental benefits to the airport or the surrounding community when compared to the existing and no-build conditions. All mitigation and/or beneficial measures previously presented in the 2008 Draft EIR/EA continue to be incorporated into the revised Program presented in this Final EIR/EA.

Massport's approach to environmental management and compliance is a key component of Logan Airport's sustainability commitment. Through monitoring and documentation, environmental performance is assessed, allowing policies and programs to be developed, implemented, evaluated, and continually improved.

Massport supports the Commonwealth's sustainable initiatives, including the recent Executive Order (EO) 484 promulgated by Governor Patrick in April 2007. Executive Order 484 establishes the Leading by Example Program as a way to oversee and coordinate sustainable efforts by state agencies and encourage private sector developers to implement sustainable practices. The SWSA Redevelopment Program supports many of the key initiatives of EO 484, including:

- Reducing Greenhouse Gas (GHG) emissions through compliance with the *MEPA Greenhouse Gas Emissions Policy and Protocol*.
- Incorporating energy and water conservation measures into the SWSA Redevelopment Program, including evaluation of on-site renewable energy opportunities.
- Recycling of construction waste material.
- Using the Leadership in Energy and Environmental Design (LEED®) Green Building Rating System, to guide the design, construction and operation of the proposed program. Massport will meet the requirements of the MA LEED Plus program (established by the Commonwealth's Executive Office for Administration and Finance) and strive to achieve a LEED Silver rating.



Organization of Chapter

The following sections discuss environmental benefits expected in conjunction with the redevelopment of the SWSA. This chapter is organized as follows:

- Summary of SWSA Redevelopment Program beneficial measures, schedules and milestones (Table 7-1).
- Site Design:
 - Stormwater Management
 - Remediation and Underground Fuel Storage Systems
 - Irrigation Water Efficiency
 - Noise Reduction Measures
 - Phase 2 SWSA Airport Edge Buffer and Other Site Landscaping
- Building Design Features:
 - Energy Efficiency
 - Water Efficiency and Wastewater Reduction
 - Architectural Treatments
 - Building Materials
 - Indoor Environmental Quality
- Transportation and Parking:
 - Roadway and Intersection Improvements
 - Airport Transportation System Improvements
 - Pedestrian and Bicycle Facilities

- Transportation Demand Management Plan
- Alternative Vehicles
- Construction Management
 - Site Remediation
 - Clean Air Construction Initiative
- Operations

Summary of Beneficial Measures

Table 7-1 below summarizes all of the mitigation and/or beneficial measures associated with the SWSA Redevelopment Program as well as the anticipated implementation schedule and milestones. While sustainable design has been discussed in terms of site and building design as well as operations as part of Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, sustainable design techniques for each area of environmental concern are included as part of Table 7-1.

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Table 7-1
SWSA Redevelopment Program Beneficial Measures

Mitigation/Beneficial Measure	Responsible Party	Implementation Schedule		
		Design	Construction	Opening
Sustainable Planning and Design				
– Meet the requirements of the MA LEED Plus program and strive to achieve a LEED Silver rating or better.	Massport & Contractor & RACs	X	X	X
Site Design				
Stormwater Management				
– Improve quality of runoff by upgrading stormwater management facilities site-wide, reducing the volume of flow to the Maverick Street Outfall by increasing pervious area site-wide, utilization of Low Impact Design elements, and replacing uncovered parking areas with buildings.	Massport		X	
– Design new sanitary and drainage systems to result in an overall reduction in combined sewer overflow volumes at the Porter Street Outfall and eliminate discharge to Maverick Street Outfall and Bird Island Flats/West Outfall.	Massport	X	X	
Remediation and Underground Fuel Storage Systems				
– Remove all existing car rental fueling systems and associated tanks and replace with current, state-of-the-art vehicle fueling and washing facilities.	Massport/Contractor		X	
– Develop a Soil Management Plan and submit to the DEP prior to construction for the AUL areas.	Massport/Contractor/ LSP		X	
– During construction, the soil and groundwater environmental issues surrounding the existing rental car operations would be addressed in compliance with the Massachusetts Contingency Plan (MCP).	Massport/Contractor		X	
Noise Reduction Measures				
– Eliminate individual rental car shuttle buses and combine Massport Airport Station buses (routes 22/33/55) through the Unified Bus System; thereby, reducing the overall number of rental car-related buses circulating on-airport and associated noise.	Massport			X
– Incorporate noise reduction strategies into site design, such as solid fences/walls, gateway signs/walls, and landscaped berms.	Massport		X	
Phase 2 SWSA Airport Edge Buffer and Other Site Landscaping				
– Complete the SWSA Airport Edge Buffer (Phase 2).	Massport		X	
– Construct other site landscaping that encourages walking/biking by providing safe and welcoming corridors, reduces environmental impact (water efficient; reduce and filter runoff), and screens the SWSA from neighboring properties.	Massport		X	

Table 7-1
SWSA Redevelopment Program Beneficial Measures

Mitigation/Beneficial Measure	Responsible Party	Implementation Schedule		
		Design	Construction	Opening
Building Design				
Energy Efficiency				
— Optimize daylight and natural ventilation within the Garage Structure (a Code classification for an “open parking structure”) to eliminate the need for substantial mechanical ventilation systems.	Massport	X	X	X
— Reduce energy consumption by a minimum of 20 percent (as required by MA LEED Plus) by properly sizing building mechanical systems and incorporating high performance/energy efficient mechanical and electrical building systems, such as highly-reflective (high-albedo) roofing materials, reduced lighting intensities, high-efficient heating and cooling systems, and daylighting techniques with window and skylight glazing.	Massport	X	X	X
— Reduce overall electricity consumption by 2.5 percent through the use of on-site renewable energy (which contributes to the overall 20 percent energy efficiency performance criteria above).	Massport	X	X	X
— Conduct a third-party commissioning process to ensure the effectiveness of building systems (as required by MA LEED Plus).	Massport/Contractor		X	
Water Efficiency and Wastewater Reduction				
— Reduce water use demand by a minimum of 20 percent (as required by MA LEED Plus) and to strive for a 30 percent reduction through utilization of high-efficient/ low-flow plumbing fixtures and car wash water reclamation systems.	Massport	X	X	
— Reduce water use demand and wastewater generation by reclaiming and reusing car washing water.	Massport/RACs			X
— Potential collection of and reuse of stormwater runoff for irrigation of landscaped areas.	Massport/RACs	X	X	X
Noise Reduction Measures				
Improve the Quick Turnaround Areas (QTAs), including the elimination of outdoor loudspeakers, elimination of car drying blowers through state-of-the-art equipment, enclosed vacuum compressors, and incorporation of six to eight-foot high solid walls/fences designed to further reduce noise from activities at the QTA facilities, including car washing and vehicle movements.	Massport/RACs	X	X	X
Transportation and Parking				
Roadway Improvements				
— Reconstruct Porter Street, including turnaround for exiting taxis.	Massport		X	
— Reconfigure SR-14 and new alignment of Ramp 1A-S.	Massport		X	
— Construct new dedicated Unified Bus System access and ramp off of SR-14.	Massport		X	
— Reconstruct traffic signals and pedestrian accommodations at the Harborside Drive/Porter Street intersection.	Massport		X	

Table 7-1
SWSA Redevelopment Program Beneficial Measures

Mitigation/Beneficial Measure	Responsible Party	Implementation Schedule		
		Design	Construction	Opening
Roadway Improvements (continued)				
— Reconstruct, widen and convert Jeffries Street to one-way northbound, between Harborside Drive and Tomahawk Drive.	Massport		X	
— Reconstruct traffic signals and pedestrian accommodations at the Harborside Drive/Jeffries Street intersection.	Massport		X	
— Construct the extension of Tomahawk Drive –a one-way westbound roadway connecting Harborside Drive with the Maverick Street Gate and Garage Structure.	Massport		X	
— Reconstruct traffic signals and pedestrian accommodations at the Harborside Drive/Hotel Drive intersection.	Massport		X	
— Reconfigure inbound lane of the Maverick Street Gate to provide additional queue storage.	Massport		X	
Airport Transportation System Improvements				
— Reduce the rental car shuttle bus fleet by approximately 70 percent through the creation of the Unified Bus System when compared to the 2007 Existing Condition and future No-Build/No-Action Conditions.	Massport			X
— Reduce VMT associated with rental car shuttling and, therefore, a reduction in air emissions when compared to the 2007 Existing Condition and future No-Build/No-Action Conditions.				X
— Reduce rental car shuttle bus terminal curbside congestion through the creation of the Unified Bus System resulting in reduced emissions.	Massport			X
— Utilize clean- and low-emission fuel for the Unified Bus System to further reduce emissions.	Massport			X
— Install Intelligent Transportation System features, as part of the Unified Bus System to further reduce emissions and improve operational efficiency.	Massport	X	X	X
— Implement new wayfinding signage to increase the efficiency of the circulating vehicles within and around the SWSA.	Massport	X	X	X
Pedestrian and Bicycle Facilities				
— Provide new pedestrian and bicycle facilities, including secure and covered bicycle storage at CSC and QTA buildings for employees, customers and the general public, as well as shower/changing facilities within the QTA buildings for employees.	Massport	X	X	X
— Provide enhanced pedestrian connections to and from the SWSA, airport terminals, the Logan Office Center, Memorial Stadium Park, Bremen Street Park, the Harborwalk, on-airport buses, public transit (MBTA Airport Station), along Porter Street, and surrounding East Boston neighborhoods.	Massport	X	X	X
— Provide street and pedestrian-level lighting and advanced warning signals and/or systems at crosswalks.	Massport	X	X	X

Table 7-1
SWSA Redevelopment Program Beneficial Measures

Mitigation/Beneficial Measure	Responsible Party	Implementation Schedule		
		Design	Construction	Opening
Transportation Demand Management (TDM) Plan				
— Provide limited SWSA employee parking on-site.	Massport	X	X	X
— Provide new access to public transit through the Unified Bus System (direct connection to MBTA Blue Line at Airport Station) and new/enhanced pedestrian facilities at the station.	Massport	X	X	X
— Require rental car companies to participate in the Logan Transportation Management Association (TMA).	Massport			X
Alternative-Fuel Vehicles				
— As presented under ‘Rental Car Company-Related Environmental Commitments’ below, the rental car companies would provide fuel-efficient and/or alternative-fueled rental vehicles (quantity to be determined by the rental car companies).	RACs			X
— The current design guidelines for the Garage Structure include infrastructure necessary to accommodate future demands for electric plug-in stations, such as conduit and electrical capacity, and other alternative fuel sources such as E-85.	Massport	X	X	X
Off-Airport Improvements/Benefits				
— Reconstruct Frankfort Street/Lovell Street intersection to provide a new traffic signal control and pedestrian-related improvements (for temporary impacts of the relocation of the Bus and Limousine Pools to the NSA during construction).	Massport		X	
— Reduce the amount of off-airport car shuttling to and from off-airport locations, further reducing traffic on Route 1A and local roadways surrounding the airport due to the consolidated and expanded rental car “ready/return” parking spaces and QTA areas at the SWSA.	RACs			X
Construction Management				
— Aim to divert/reduce construction waste to landfills.	Massport/Contractor		X	
— Implement Erosion and Sedimentation Control Program.	Massport/Contractor		X	
— Retrofit certain diesel construction equipment types with diesel oxidation catalyst and/or particulate filters (in accordance with the DEP Clean Air Construction Initiative).	Massport/Contractor		X	
— Require the use of ultra-low sulfur diesel fuel for off-road construction vehicles and/or equipment.	Massport/Contractor		X	
— Construction worker vehicle coordination and trip limitation, including requiring contractors to provide off-airport parking and use of high-occupancy vehicle transportation modes for employees.	Massport/Contractor		X	
— To ensure no changes in the conditions of abutting homes due to pile driving, Massport will require the Contractor to inspect the conditions of the abutting homes prior to and following pile driving activities.	Massport/Contractor		X	

Site Design

This section describes the beneficial measures related to site design of the Program, including: stormwater management, remediation, efficient irrigation, noise reduction measures, and site landscaping, including the Phase 2 SWSA Airport Edge Buffer.



Stormwater Management

As described in Chapter 5, *Drainage and Wastewater* the SWSA Redevelopment Program is expected to improve the quality of runoff by upgrading stormwater management facilities site-wide, replacing uncovered vehicle surface parking with buildings, and decreasing paved area. By providing new, upgraded and centralized stormwater facilities designed to meet and/or exceed DEP's *Stormwater Management Policy and Guidelines* where collectively site-wide post-development flows would not exceed pre-development flows, replacing uncovered vehicle surface parking with buildings, reducing the overall paved surface area by approximately 6.1 acres compared to the 2007 Existing Condition by adding landscaped areas throughout the site, the SWSA Redevelopment Program would improve the overall stormwater runoff quality from the SWSA. The proposed stormwater management system has been designed based on the following criteria:

- Eliminating site discharges to Maverick Street Outfall Combined Sewer (CS) upstream of the regulator; thereby, contributing to the reduction in the frequency and volume of combined sewer overflows (CSOs).
- Reducing the flows contributing to the Porter Street Outfall.
- Eliminating flows contributing to the Bird Island Flats/West Outfall.
- Using stormwater Best Management Practices (BMPs) to assist in managing runoff rates, improving water quality, and providing a practical degree of groundwater recharge.
- Modifying the Maverick Street Outfall structure and relocating the tide gates and monitoring points to locations upstream of the Outfall.

It is anticipated that the reduction in flows from the SWSA, and the design of the new sanitary and drainage systems will result in an overall reduction and elimination site discharges to the Porter Street Outfall and Maverick Street Outfall combined sewer upstream of the regulator, respectively. The new drainage system for the SWSA will:

- Decrease paved/impervious area and increasing landscaped area site-wide, which reduces the volume of stormwater runoff flow;
- Remove all four acres of stormwater runoff to the Boston Water and Sewer Commission's (BWSC) Maverick Street combined sewer overflow (CSO).
- Reroute all drainage south of the Porter Street Outfall to the Massport Maverick Street Outfall.
- Continue draining flows north of the Porter Street Outflow to the BWSC Porter Street CSO.

- Reduce the volume of flow to the Bird Isle Flats Outfall/West Outfall by diverting some of the existing SWSA flow into the Maverick Street Outfall.
- Incorporate Massachusetts Water Resources Authority (MWRA)-approved oil water separators (i.e., traps) will be used for all storm drainage, in accordance with the BWSC's Requirements for Site Plans, so that hydrocarbons and other contaminants are collected prior to discharge to the BWSC sanitary sewer system and Massport drainage system. (These devices will be approved through the MWRA and BWSC approvals process.)
- Incorporate BMPs and Low Impact Development techniques to further manage the quantity and quality of the stormwater runoff related to the SWSA Redevelopment Program (discussed further below).

Low Impact Development Techniques

Low Impact Development (LID) is a sustainable stormwater management strategy aimed at maintaining or restoring the natural hydrologic functions of a site to achieve resource protection objectives and regulatory requirements. LID would employ various natural and built features that reduce runoff rates and filter out pollutants and recharge groundwater. The following LID design strategies will be applied as part of the SWSA Redevelopment Program:

- Surface grading to encourage sheet flow and lengthen flow paths;
- Dispersal of flow paths;
- Vegetated strips, depressions, and buffers to filter runoff and recharge groundwater; and
- Treatment devices (e.g., oil-water separators, swirl concentrators) to treat pollutant loads where they are generated, or prevent their generation.

Integrated Management Practices (IMPs) may also be considered for the SWSA Redevelopment Program, including:

- Dry wells;
- Grassed swales;
- Infiltration trenches;
- Inlet pollution removal devices;
- Permeable pavement and pavers;
- Rain barrels and cisterns for stormwater reuse; and
- Tree box filters.

Remediation and Underground Fuel Storage Systems

As described in Chapter 9, *Soil and Groundwater Conditions* of the 2008 Draft EIR/EA, the SWSA Redevelopment Program would involve the decommissioning of the existing rental car facilities including the removal of all fueling systems and associated tanks. The SWSA Redevelopment Program will replace aging facilities with current, state-of-the-art vehicle fueling and washing facilities. Some of the proposed pollution prevention features of the new fueling facilities include, but are not limited to:

- New concrete positive limiting barriers surrounding the dispenser fueling areas;
- Improved site grading/drainage controls around the fuel transfer areas to reduce potential runoff;
- New secondarily contained corrosion resistant tanks/piping meeting most current UL standards designed for the current fuel additives (specifically E10);
- Secondary containment at storage tank fill and vapor recovery connection points (i.e., double wall spill buckets);
- New storage tank overfill protection devices meeting current vapor control technologies reducing fugitive vapor emissions; new environmental monitoring system allowing enhanced tank testing capabilities with remote access/notifications of storage tank operating conditions; and
- New storage tank containment sumps outfitted with lightweight composite manholes encouraging operators to conduct more frequent inspections of underground fuel components.

Furthermore, the replacement of open-space parking areas with a parking garage would reduce the runoff from parking lots, along with incidental hydrocarbon loadings. During construction, the soil and groundwater environmental issues surrounding the existing rental car operations would be addressed in compliance with the Massachusetts Contingency Plan (MCP). Refer to the 'Construction' section below for further details.

During construction, the soil and groundwater environmental issues surrounding the existing rental car operations would be addressed in compliance with the Massachusetts Contingency Plan (MCP). The removal of the tanks will be in accordance with applicable public safety regulations. As part of this work, the tanks and their respective filling and distribution systems would be drained into tank trucks or other suitable containers for reuse or disposal, as appropriate. The tanks and lines would then be flushed and cleaned in preparation for removal. Tank removal would be performed under the supervision of public safety officials, and would conform to the requirements of DEP Policy WSC-402-96 "Underground Storage Tank Closure Assessment Manual" (April 9, 1996). As part of the tank systems removal, soils around the tanks and product lines would be screened for volatile organic compounds (VOCs) to indicate whether releases of hydrocarbons have occurred. Soils generated from tank and fuel line removal activities would be tested to determine suitability for reuse and/or disposal requirements. In the event that subsurface contamination is encountered during tank removals or other excavation activities, at levels which constitute a reportable condition under the MCP, the DEP would be notified and appropriate response actions would be taken. This removal would eliminate these USTs and their associated fuel distribution systems, and prevent possible future spills from these facilities.

Given the history of the SWSA, a Soil Management Plan is required to determine whether excavated soils can be reused onsite, and/or determine requirements for off-site reuse, recycling, or disposal. Soil will be

disposed of in conformance with Massport's soil management policy. This plan would be developed under the supervision of an LSP, and would be integrated into the requirements of existing RAOs for portions of the site covered by RTNs, and/or RAM plans for newly identified areas of contamination. The Soil Management Plan will be developed in concert with a groundwater management plan, which will address requirements for dewatering and collection, testing and/or treatment and disposal or discharge of water pumped from excavations.

Status of Release Tracking Numbers (RTNs)

All but one of the Release Tracking Numbers (RTNs) associated with the SWSA have been closed out, with three resulting in the filing of an Activity and Use Limitation (AUL). The remaining RTN (3-28792) was reported on October 29, 2009 as a result of soil investigation related to the ConRAC and response actions are ongoing. The three AUL areas will require that a Soil Management Plan be developed by a Licensed Site Professional (LSP) and submitted to the DEP prior to construction within those areas.



Irrigation Water Efficiency

In line with the overall sustainability goals and as required by MA LEED Plus, the SWSA Redevelopment Program will be designed to minimize the potable water demand for irrigation by a minimum of 50 percent. The minimum 50 percent reduction in potable water use for irrigation will be accomplished through the landscape design by incorporating low-water demand species (native/adapted) and/or drought-tolerant planting types (including drought-tolerant grass species for lawn areas). Also, the amount of lawn areas will be limited with the incorporation of plant beds with trees, shrubs and groundcovers that require less frequent watering.

Any irrigation system will be installed with efficient equipment, including pressure regulating valves and spray heads, root watering systems/drip irrigation, weather-smart controllers and/or rain/weather sensors.

Through final design, the landscape plan will strive to require no permanent irrigation system and/or zero potable water use for irrigation purposes through rainwater harvesting/stormwater runoff collection.



Noise Reduction Measures

As discussed in Chapter 4, *Air Quality and Noise*, any projected increases in noise due to the SWSA Redevelopment Program do not constitute a "significant impact" according to the FAA criteria.¹

By consolidating and improving the efficiency of existing rental car operations, it is expected that the proposed program would reduce overall future noise levels in adjacent neighborhoods compared to current conditions. The SWSA Redevelopment Program will result in the relocation of several existing noise sources away from the adjoining neighborhoods. The relocation of existing Bus and Limousine Pools to the North Service Area would eliminate the current use of buses on Tomahawk Drive and Jeffries Street. Additionally,



¹ 14 Code of Federal Regulations, Federal Aviation Regulations Part 150, *Airport Noise Compatibility Planning*.

the number of shuttle buses serving the facility would be greatly reduced as part of the Unified Bus System (individual buses for each rental car company would be consolidated) and improved traffic-flow patterns for the Unified Bus System would reduce or eliminate occurrences of shuttle bus back-up alarms. Shuttle bus traffic will be relocated farther from the airport property edge on the opposite side of the Garage Structure and, therefore, the community would be shielded from this noise source.

Noise reduction measures that have been incorporated into the site design include:

- A 6-foot high wall with landscaping is proposed on the south edge of the Bus and Limousine Pool area (as previously proposed to buffer the previously proposed QTAs east of Jeffries Street) to block noise and light emissions coming from as well as screen views of the Bus and Limousine Pool area. The wall and landscaping are not present under the 2007 Existing Condition nor is it proposed under the future No-Build/No-Action Conditions.
- A gateway feature flanking either side of the intersection of Tomahawk Drive and Harborside Drive.



Phase 2 SWSA Airport Edge Buffer and Other Site Landscaping

As part of a previous agreement, the SWSA Redevelopment Program will realize the Phase 2 SWSA Airport Edge Buffer and improve the surrounding streetscapes with landscaping elements and provide safe pedestrian crossings. New connections to the SWSA Phase 1 Airport Edge Buffer, Memorial Park, the MBTA Airport Station and the Harborwalk will be provided, which will result in substantial improvements to the pedestrian environment and neighborhood connectivity.

Phase 2 SWSA Airport Edge Buffer

Massport has committed to a two-phased buffer program for the SWSA. The Phase 1 SWSA Airport Edge Buffer, completed in the fall of 2006, included the construction of an approximately half-acre area with landscaping and lighting improvements along Maverick Street with evergreen and deciduous trees, ornamental shrubs, and groundcovers distributed throughout the buffer area. The Phase 2 SWSA Airport Edge Buffer would be implemented in conjunction with SWSA development and would include additional site landscaping (Figure 1.13). The Phase 2 SWSA Airport Edge Buffer would be designed in consultation with the community. Refer to Chapter 1, *Proposed SWSA Redevelopment Program* for further details on the proposed landscape buffer and the site landscape plan.

Other Site Landscaping

In addition to the completion of the SWSA Airport Edge Buffer (Phase 2), the SWSA Redevelopment Program includes additional landscaped areas on the site roadways, entrances, and spaces within the SWSA. The conceptual design for the project's landscapes and streetscapes will transform the existing inhospitable and vehicle-oriented SWSA into a place that:

- Provide attractive landscaping that will beautify the airport edge and buffer the adjacent land uses from airport functions and harmonize with the existing airport plant palette;

- Provides visual and physical barriers to screen the Program uses from the surrounding community and residential properties;
- Provides sustainable landscaping that enhances environmental conditions by providing shade, reducing stormwater run-off, and filtering noise and light;
- Provide landscaping at gateways to the site that would create an attractive and welcoming atmosphere at major pedestrian, roadway and building entrances;
- Encourages walking and bicycling to/from airport facilities by providing for a safe pedestrian and bicycle environment through the implementation of streetscape improvements;
- Provide a multi-use open space corridor with access from Maverick Street, Geneva Street, and Porter Street that accommodates pedestrian and bicycle circulation and improves connections to existing East Boston open spaces and public transportation; and
- Provide a passive open space area that is accessible from Maverick Street, Geneva Street, and Porter Street that includes landscaping, seating areas, and attractive lighting and street furnishings.

Refer to Chapter 1, *Proposed SWSA Redevelopment Program* for details on the proposed landscape treatments. Refer to Figure 1.10 for the overall site landscape plan for the SWSA.

Building Design

This section describes the beneficial measures related to building design of the SWSA Redevelopment Program, including energy and water efficiencies, and architectural treatments.

Energy Efficiency

The design goal for the consolidated garage structure is to maintain a building code classification of 'open parking structure' to allow for daylight and natural ventilation, thereby avoiding the need for energy a substantial amount of conditioning systems resulting in higher project costs as well as a significant increase in energy use. Increased energy consumption would result in greater Greenhouse Gas (GHG) emissions negatively impact air quality at a regional and global level.

The proposed program will be designed, constructed and operated to be eligible for LEED certification. Massport will meet the goals of the MA LEED Plus program and strive to achieve a LEED Silver rating or better. In accordance with the MA LEED Plus requirements, the SWSA Redevelopment Program will be designed and constructed to exceed the current MA Energy Code (7th Edition) by at least 20 percent to further reduce energy demand and, therefore, stationary source GHG emissions. The design approach to reduced energy demand is three-fold:

- Appropriately designed and sized building systems;
- Incorporation of energy-efficient systems; and
- A minimum of 2.5 percent on-site renewable energy (e.g., solar or wind).

By understanding the overall energy distribution of the proposed program, a larger portion of energy savings could be realized by:

- High-efficiency lighting/reduced lighting intensities (watts per square foot) of the Garage Structure, surface parking lots and CSC common space;
- High-efficiency ventilation, or HVAC, systems in the CSC and QTAs;
- Increased wall and roof insulation for the CSC and QTA buildings; and
- Implementation of a Building Management System, including the ability to adjust and maintain set points and schedules, indicate problems, and provide information on trends and operating history.

Also in compliance with MA LEED Plus, Massport will commit to conducting a third party commissioning process that better ensures that building HVAC systems are calibrated and working as efficiently as they are intended.

In accordance with the GHG Policy and Protocol, the above-mentioned measures have been evaluated for their GHG emission reducing potential. Refer to Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment* for the GHG analysis of both mobile sources and stationary sources.



Water Efficiency and Wastewater Reduction

As described in Chapter 5, *Drainage and Wastewater*, minor changes/upgrades are proposed to the existing water supply and wastewater network under the 2013 and 2018 Build Conditions when compared to 2013 and 2018 No-Build/No-Action Conditions. This would be a result of installing low-flow/high-efficiency plumbing fixtures and other water conservation measures (such as high-efficiency landscaping and/or irrigation system).

In accordance with the sustainability goals and as required by MA LEED Plus, the SWSA Redevelopment Program will be designed to reduce the potable water demand for sanitary purposes by at least 20 percent over conventional development (what is currently required by the Massachusetts State Plumbing Code) through the use of low-flow plumbing fixtures, such as aerators, dual-flush valves, and automatic sensors on lavatory faucets, and/or low-flow urinals. Additionally, the rental car washing activities will continue to reclaim a portion of the water flow used per wash cycle. Water used for irrigation purposes will be reduced by a minimum of 50 percent in comparison to standard irrigation methods in compliance with the MA LEED Plus program requirements. This will be achieved through the use of high-efficiency irrigation systems and utilization of native, drought-tolerant plantings.

As discussed in Chapter 5, *Drainage and Wastewater*, stormwater collection/reuse system and treatment/reuse of certain graywater types may be used for various non-potable purposes such as vehicle cleaning and maintenance as well as irrigation purposes (as discussed above).



Noise Reduction Measures

Noise reduction measures that have been incorporated into the design of the SWSA Redevelopment Program buildings, including:

- Improvements to the Quick Turnaround Areas (QTAs) include:
 - Elimination of outdoor loudspeakers;
 - Elimination of car drying blowers through state-of-the-art equipment; and
 - Enclosed vacuum compressors.
- Screen the southern vehicle ramps on the Garage Structure.
- Noise abatement treatments such as architectural screening would be applied at the exterior south-facing (approximately 80 percent enclosed) and west-facing (up to approximately 50 percent enclosed) façades (those that face the community) of the Garage Structure.



Architectural Treatments

The SWSA is located near the edge of airport property, adjacent to the Gove Street and Jeffries Point neighborhoods. Buildings constructed as part of the SWSA Redevelopment Program will be visible from surrounding properties. The building design will be responsive to the neighborhood context, especially the façades close to or viewed from local streets, homes, and open space. Specific issues include noise, air emissions, and visual and light spill impacts. The proposed structures will be located to minimize impact to the neighborhood and to incorporate aesthetically pleasing exterior elements and façade treatments.

A combination of solid, screening, and transparent building materials will be selected for exterior treatments. A range of materials and façade systems – from masonry and colored precast concrete, to metal panel and structural glass, to sail fabric – are under consideration. For further definition of the design of each building element refer to the Architectural Design Criteria included in Appendix C of the 2008 Draft EIR/EA.

Chapter 1, *Proposed SWSA Redevelopment Program* provides a summary of design guidelines that have been developed in response to community and sustainability issues. Specific architectural treatments that will be applied include:

- Design criteria for the Garage Structure has been developed to eliminate the need for ventilation systems, control noise, and minimize light spill and emissions. The façade design includes a combination of solid panels, architectural louvers, and perforated metal panels, which are expected to shield air emissions, noise, light spill, and visual impacts.
- The south façade of the Garage Structure, closest to the community, is proposed to be set back approximately 80 feet from the nearest home, and will be approximately 80 percent enclosed to provide the minimum amount of openings for ventilation and borrowed daylight.
- The west façade of the Garage Structure is proposed to be set back a range of approximately 350 feet to over 500 of feet away from the airport property edge and to be separated from the community by QTAs 1 and 2 as well as extensive landscaping as a part of the Phase 2 Airport Edge Buffer and six-foot high solid wall/fence.
 - The architectural treatment of the west façade of the Garage Structure is proposed to be, on average, over approximately 50 percent enclosed, with a more concentrated treatment of solid panels and architectural louvers that screen views into the parking decks at the southwest corner (the portion of the Garage Structure closest to the community).

- Pole lighting on the roof (fourth) level, and ceiling mounted fixtures on lower decks would be located, and fitted with cut-off features to avoid light spill within the neighborhood. (Facade strategies, such as architectural screening treatment for the Garage Structure, would also be a factor in controlling light spill.)

Refer to Chapter 1, *Proposed SWSA Redevelopment Program* for an update on the proposed architectural design considerations and elements.



Building Materials

While building material components and finishes will be selected during final design, design criteria for exterior applications have been established and include contextual appropriateness, durability, longevity, and environmentally benign maintenance. Sustainable materials with a high percent age of recycled contents, sourced and manufactured locally (within 500 miles of the Site), and with low VOC emitting qualities are preferable. Materials that typically contain recycled products include steel, concrete, and numerous interior finishes such as carpet, tile, and interior fabrics. While interior finishes for tenant spaces will ultimately be selected by each individual rental car companies, Massport will require tenants to adhere to above-mentioned criteria, where feasible. Refer to Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment* for examples of exterior and interior materials being considered and evaluated. The rental car companies would be required to adhere to applicable criteria of the *Logan Airport Sustainable Design Standards and Guidelines* (presented in Chapter 2).



Indoor Environmental Quality

Massport will work toward the goal of providing a high level of indoor environmental quality in those areas within its control and will encourage similar measures for the fit-outs of the rental car companies' spaces. Tenant occupied spaces will have individual thermostats, humidity and/or ventilation controls to improve the comfort of occupied spaces and conserve energy in unoccupied areas. Entry lobbies will include fixed entryway systems to capture dirt and other particles. Storage areas for hazardous chemicals or fumes will be vented or drained to prevent re-circulation of contaminants. The SWSA Redevelopment Program will specify and install low VOC emitting building materials for adhesives, paints, sealants, coatings, carpets, and other products, where available. The design of the SWSA Redevelopment Program optimizes natural day lighting, passive solar gain and natural ventilation (for the Garage Structure) where applicable and feasible in order to create a more inviting/healthy indoor environment while reducing the use of energy for lighting and/or ventilation.

During construction, Massport will require the contractor to prepare and implement an Indoor Air Quality (IAQ) Management Plan to protect filters and other sensitive equipment from dust and/or moisture.

Site Circulation and Access

By its very nature, the SWSA Redevelopment Program acts as a beneficial measure for vehicular circulation within the immediate community. By consolidating the rental car companies in an on-airport facility, the

amount of traffic that travels neighborhood streets to get to off-site locations will be greatly reduced. Off-site rental car properties will still be used for light maintenance and vehicle storage, but will not have shuttle buses and renting/return customers traveling to those locations at regular intervals. Trips to off-airport sites will be limited to rental car company personnel and vehicle transporters.

Consolidating rental car operations on-airport is consistent with Massport's long established goal to reduce airport-related activities off-airport, specifically reducing the number of re-circulating rental car shuttle buses on local roadways. In addition, taxis will now enter and exit the Taxi Pool through the Harborside Drive and Porter Street intersection, on-airport, and would not travel through the neighborhood to reach or line up for the Taxi Pool (as the taxis don't currently do). The SWSA Redevelopment Program is consistent with the East Boston Parking Freeze regulation which encourages relocation of rental car spaces from the East Boston Parking Freeze areas onto the airport.

The location of the SWSA, the proposed Unified Bus System, proximity to public transit, and pedestrian design elements all combine to ease traffic impacts. Additional transportation-related improvements are proposed to facilitate the required site access and circulation, manage transportation demands, and improve the overall pedestrian and vehicle movement in the study area.

In accordance with the *MEPA Greenhouse Gas Policy and Protocol*, the proposed transportation, parking and TDM measures have been evaluated for their GHG emission reducing potential. Refer to Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment* for the GHG analysis of both mobile sources and stationary sources.



Roadway Improvements

As described in Chapter 3, *Surface Transportation* and illustrated in Figures 3.13 to 3.19, the SWSA Redevelopment Program includes numerous roadway and intersection improvements as part of the proposed access and circulation pattern for the SWSA. While integral to the access proposal, it is important to note that the transportation improvements included in the SWSA Redevelopment Program mitigate a number of projected No-Build/No-Action Condition issues regarding roadway and intersection capacity. The following is a summary list of physical transportation improvements included in the SWSA Redevelopment Program (a more detailed description of the improvements can be found in Chapter 3, *Surface Transportation*):

- Reconstruction of portions of Porter Street, including provision of a turnaround for exiting taxis.
- Reconfiguration of SR-14 and new alignment of Ramp 1A-S.
- Construction of new Ramp S-D.
- Reconstruction of traffic signals and pedestrian accommodations at three intersections:
 - Harborside Drive and Porter Street
 - Harborside Drive/Jeffries Street
 - Harborside Drive/Hotel Drive

- Reconstruction, widening and converting Jeffries Street to one-way northbound of Jeffries Street, between Harborside Drive and Tomahawk Drive.
- Reconstruction and extension of Tomahawk Drive as a one-way westbound roadway connecting Harborside Drive with the Maverick Street Gate and SWSA garage.
- Reconfiguration of inbound lane of the Maverick Street Gate to provide additional queue storage.
- Reconstruction of the Hotel Drive and Ramps D-S and the Hotel Drive and SR-2 intersections as one, consolidated signalized intersection.
- Reconstruction of the northern portion of SR-14 to provide a bus drop-off lane and curbside space for the proposed Unified Bus System's Arrival level buses.

Interim Build Improvements

Two intersections are projected to decline in operation without improvements when comparing the 2013 and 2018 No-Build/No-Action Conditions to the 2013 and 2018 Build Conditions. The unsignalized intersections of Frankfort Street/Lovell Street and Harborside Drive/Hyatt Drive are projected to operate at LOS F and D, respectively, during 2013 Build Conditions due to the additional traffic associated with the temporary relocations of the Bus and Limousine Pools and Taxi Pool during construction (Table 3-11). Analysis results indicate that with the proposed signal and roadway improvements the Frankfort Street/Lovell Street and Harborside Drive/Hyatt Drive intersections are projected to operate at a LOS C or better under traffic signal control. Figures 3.18 and 3.19 present conceptual traffic signal installations for these locations.



Unified Bus System

The Unified Bus System would result in a reduction from more than 94 buses (2007 Existing Condition) to a maximum of 28 buses (Build Conditions) at the terminal curbsides each hour representing a 70 percent reduction. The proposed Unified Bus System would improve customer service, reduce curbside traffic congestion, provide a safer, more manageable experience for pedestrians, and reduce vehicle-miles-traveled (VMT).

With the reduction in the rental car shuttle bus fleet, elimination of Massport bus routes (22/33/55) and proposed Ramp S-D, VMTs for shuttles are projected to be reduced by approximately 65 percent with the Unified Bus System compared to current practice of running separate shuttle bus fleets for eight rental car companies and the Massport bus routes between Airport Station and the terminals. This equates to a reduction of approximately 4,865 vehicle miles daily and a savings of around 400,000 gallons per year of fuel depending on the Unified Bus System fuel option (a reduction of around 5,000 tons per year of CO₂e emissions) when compared to the 2007 Existing Condition. The resulting air quality benefits from the Unified Bus System would be further enhanced by Massport's commitment to use a clean-fuel low-emissions shuttle bus fleet.

Intelligent Transportation System Improvements

The Unified Bus System operation is expected to carry as many as 2,000 passengers per hour while operating two dozen buses at headways as short as three minutes. To ensure a high level of customer service, the SWSA Redevelopment Program will include a number of Intelligent Transportation System improvements.

- The Unified Bus System will be actively managed by dedicated staff and an operations center will be included in the ground floor of the ConRAC Customer Service Center building.
- The Unified Bus System will include expanded automatic vehicle locator systems for the buses, automatic passenger count systems for the buses, curbside camera systems, and dynamic messaging systems.
- The vehicle locator system will provide location, directional, and speed information on all buses.
- There will be monitoring links to existing camera systems at terminal curbs, and new cameras installed to cover the Airport Station and ConRAC bus curbs.
- Dynamic message signs (DMS) will be installed on the ground level Departures curb. Dynamic message signs will be installed at the Airport Station Departure bus lane and curbside.
- The operations center will be used to monitor bus scheduling/tracking, DMS sign control, and real-time vehicle monitoring.



Pedestrian and Bicycle Facilities

As shown in Figure 3.25, the implementation of the SWSA Redevelopment Program would provide:

- Enhanced pedestrian connections to and from Logan Airport Terminals, the Logan Office Center, Memorial Stadium Park, Street Park, the Harborwalk, on-airport shuttle buses, public transit (Airport Station), the Taxi Pool, and the surrounding East Boston neighborhoods.
- Enhanced bicycle connection to and from Memorial Stadium Park, on-airport shuttle buses, public transit (Airport Stations), Greenway, Bremen Street Park, and surrounding East Boston neighborhood.
- An enhanced pedestrian/bicycle route would be constructed from Maverick Street to the Memorial Stadium Park along the western edge of the SWSA and would include a landscaped buffer.
- Existing access to the Harborwalk along the southeast edge of the SWSA (near the Maverick Street Gate) would remain in place and would be enhanced as part of the SWSA Redevelopment Program.
- The design of all non-protected pedestrian crossings, located mid-block or at unsignalized intersections, would include enhancements to pedestrian safety, such as street and pedestrian-level lighting and advanced warning signs, and/or advanced warning systems.
- Secure and covered bicycle racks at grade near the proposed CSC and QTA buildings and open space for employees and general public.
- Improved bicycle access to the ConRAC facility for employees and air travelers/rental car customers.

Off-Airport Improvements

While no specific capacity improvements are proposed as part of the SWSA Redevelopment Program, the relocation of off-airport rental car operations to the SWSA results in reduced traffic on the Route 1A corridor. In accordance with the goals of the East Boston Parking Freeze, the Program's expanded capacity of rental car ready and return parking spaces and QTA areas on-airport would reduce the amount off-airport car shuttling, further reducing traffic on Route 1A.

Transportation Demand Management (TDM)

As presented in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, Massport is committed to providing a TDM program, in conjunction with the rental car companies that encourages use of "alternate modes" of transportation such as walking, bicycling and public transit. TDM measures are typically targeted towards employees and the SWSA Redevelopment Program will include the most effective TDM measure, a significant limitation of on-site parking. However, the proximity of the SWSA to East Boston neighborhoods provides an opportunity to encourage pedestrian and bicycle users accessible routes through the SWSA. The proposed TDM measures include:

- Massport will not provide any Massport employee parking within the SWSA.
- Rental car company 'employee' parking within the SWSA will be limited to approximately 30 spaces in the Garage Structure (approximately 3 to 4 parking spaces per company) where it would be up to the rental car companies to decide how to use these spaces and whether to charge employees to park or not.
- Like other on-airport tenants, each rental car company will be required to pay dues to the Logan Transportation Management Association (TMA), which is currently managed by MassRides under contract to the MA Executive Office of Transportation.² The Logan TMA will assist the rental car companies to:
 - Appoint a transportation coordinator to work with the TMA on a regular basis to develop and implement employee commute programs.
 - Provide some level of subsidy of transit passes to employees (e.g., provide Massachusetts' employees with the option to use pre-tax dollars from both federal and state income and payroll taxes to purchase transit passes).
 - Provide employees with transit and rideshare information such as maps and schedules, as well as details of all available transit benefits and commuting transportation alternatives.
 - Provide ride-matching services.
 - Guaranteed Ride Home services to eliminate an often-cited deterrent to carpool and vanpool participation.

▼
2 The Logan TMA is essentially a partnership between Massport and the rental car companies (and other airport tenants); with Massport providing infrastructure and services that encourages use of alternate modes of transportation for employees such as walking, bicycling, and public transit.

- Provide new pedestrian and bicycle facilities, including secure and covered bicycle storage at the CSC and QTA buildings for employees, customers and the general public, as well as shower/changing facilities within the QTA buildings for employees.
- Provide passive open space for employees and general public use.
- The Unified Bus System will provide free connections for employees and rental car customers to the MBTA Blue Line (Airport Station) and Silver Line as well as access to all other mass transit (ferry service) and shared ride services offered at the terminals.
- Provide ATMs on-site.
- While no food service (other than vending machines) will be located on-site, the location of the facility provides good pedestrian and bicycle access to local eateries and services in the adjacent neighborhoods. Free shuttle services to the terminals will reach a variety of concessions and services.



Alternative Fuel/Low-Emitting Vehicles

Massport is committed to facilitating and encouraging, through the SWSA Redevelopment Program, the availability and use of fuel-efficient, hybrid and/or alternative fuel/low-emitting vehicles. To promote the use of environmentally-preferred vehicles, Massport will encourage the rental car companies to designate with signage a percentage of rental car "Return" parking spaces as preferred spaces (close to building entrances) as a convenience to their customers that rent these vehicles.

The current design guidelines for the Garage Structure include infrastructure necessary to accommodate future demands for electric plug-in stations, such as conduit and electrical capacity, and other alternative fuel sources such as E-85 (which is already available at the airport gas station). This will continue to be evaluated and considered through final design.

Many of the decisions regarding the vehicle fleet mix will continue well after the Program design and construction is complete. The rental car industry continuously updates their rental car fleets, seeking the most efficient and highly sought after vehicles for their customer base. The availability of hybrid vehicles is often limited by manufacturers that favor the more profitable and traditional single user sale of vehicles than the high volume discount fleet sales to the rental car industry. In addition, some alternative fuels such as E-85 are not readily available outside of the rental car company's rental sites. If the fuel is not readily available to rental customers out on the road, then the demand for such vehicles would be very low. In this case, the rental car industry would not stock such vehicles, as the demand would be minimal. Currently, the demand for vehicles running on E-85 is greater in the Midwest, where the fuel is available at traditional gas stations, than in the Northeast, where the fuel is relatively scarce. As such situations change, the entire industry has committed to responding by offering the latest fuel efficiency and low-emission efficiency technology available.

Construction Management

Chapter 6, *Construction* includes a description of construction phasing, an assessment of the impacts during the construction period, and proposed measures to reduce the temporary construction-related impacts. As

part of its approvals process, Massport requires all contractors to adhere to certain construction guidelines that relate to:

- Divert and/or recycle construction waste, which is expected to be reduced by 75 percent;
- Installing emission control devices such as diesel oxidation catalyst and/or particulate filters on certain equipment types (i.e., front-end loaders, backhoes, excavators, cranes, and air compressors), in accordance with DEP's Clean Air Construction Initiative;
- Utilizing ultra-low sulfur diesel fuel for all off-road construction vehicles/equipment;
- Selection of high efficiency "temporary" space heating/cooling systems;
- Remediate subsurface contamination, as necessary, if encountered during tank removals or other excavation activities as part of construction (in compliance with the Massachusetts Contingency Plan);
- Soil treatment and reuse on site as part of a Soil Management Plan;
- Voluntary compliance with the requirements of City of Boston noise ordinances, including restrictions on the types of equipment that can be used, and limitations on the hours when certain activities can take place (the City of Boston noise ordinance establishes restrictions during the construction hours between 6:00 PM and 7:00 AM);
- Construction worker vehicle trip limitation, including requiring contractors to provide off-airport parking and use of high-occupancy vehicle transportation modes for employees; and
- Implement Indoor Air Quality (IAQ) Management Plan during construction.

Massport is committed to sustainable practices to help reduce impacts associated with construction (Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*).

Operations

In addition to site and building design, transportation/parking, and construction management related beneficial measures, the SWSA Redevelopment Program also includes a number of on-going operational measures that are expected to have long-term environmental benefits.

Massport Operations

In line with Massport's sustainability goals, the following on-going operational measures would have a positive effect on the environment:

- Continue to conduct monthly and quarterly stormwater sampling from the Porter and Maverick Street Outfalls, in accordance with the current NPDES permit for the Airport;
- Verify the intended efficiency of designed energy conservation measures through continuous collection of operational data and actions to optimize equipment performance (building commissioning);

- Institute a goal of 50 percent reduction in operational waste by implementing a recycling program; and
- Implement innovative sustainable measures, including an environmental educational display describing the sustainable design measures associated with the Program.



Rental Car Corporate-Wide Operations

In addition to the beneficial measures to be incorporated into the SWSA Redevelopment Program by Massport, a large part of future environmentally-friendly initiatives will be contributed by the rental car companies themselves. The environmental policies vary from company to company, but the majority of the rental car companies follow a protocol that includes one or all of the following:

- A fleet of high efficiency vehicles, hybrid vehicles, and/or alternative fuels;
- Water recycling in carwashes;
- Vehicle maintenance related parts and fluid recycling;
- Use of environmentally-sensitive chemicals;
- Solid waste recycling;
- Community programs; and
- Carbon offset programs.

With growing public interest in sustainable practices, the rental car industry, as some of the largest vehicle fleet owners in the world, and as regulated with federal mandates (i.e., the Corporate Average Fuel Economy, or CAFE, standards that dictate the number of miles per gallon that an automaker should get for the range of vehicles it sells) have taken steps toward fulfilling requirements of fuel efficiency and energy reduction. Each of the rental car companies maintains some percentage of high-efficiency vehicles. Hybrid vehicles would be maintained as a portion of the fleet and as the cost of hybrids decrease, it is anticipated that the number of hybrid vehicles offered will increase. Many of the rental car companies also offer flexible fuel vehicles where alternative fuels such as bio-diesel and E-85 fuels are available. As previously mentioned, E-85 fuel is currently available at Logan Airport.

While the large vehicle fleets require regular service, these operations become more and more environmentally-friendly. For example, all of the rental car companies utilize car wash systems that capture, treat, and recycle as much water as possible to reduce wastewater and contamination of local water sources. Each rental car company that currently services Logan Airport recycles its motor oil and other maintenance fluids, and several have begun using biodegradable and earth-friendly cleaning fluids and chemicals for vehicle and site maintenance.

In addition to their fleet obligations and to further their commitments to the environment, rental car agencies have instituted a number of sustainable business practices. Several companies are now offering hourly rentals or car sharing rentals. One company (The Taylor Family of Brands – Alamo, National, Enterprise) has committed to planting 1 million trees (throughout the country as well as in communities where the company branches are located) every year for the next 50 years to offset the impacts of carbon emissions from the rental vehicles and they offer customers the opportunity to buy carbon offsets as part of their rental agreement.

Customer offset purchases are matched up to the first million dollars. Carbon offsets are used to fund certified offset projects that remove CO2 from the atmosphere. Finally, this same company has created an Institute for Renewable Fuels at one of the world's leading plant science centers. The institute brings together some of the world's best and brightest minds to research plant-based renewable fuels.

Many of these sustainable principles are currently in practice in the Boston area and Massport will continue to discuss the need to expand the availability of these services at Logan Airport. In addition, Massport will continue to encourage the industry to do more for the environment at the airport by requiring compliance with certain sustainable practices and programs as part of the tenant leases. Massport is also considering developing a construction, operations and maintenance manual that is specific to the SWSA Redevelopment Program, as a guideline for tenants within the future facility. This manual would outline such items as materials and fixtures that can be utilized in tenant spaces, temperature and lighting level controls to ensure proper energy usage, and the utilization of Energy Star electronics. Other requirements might include the use of environmentally friendly cleaning products, recycled paper, and compliance with Massport recycling programs.

Along with voluntary cooperation for sustainable issues from tenants through their individual environmental policies and goals, Massport intends to require compliance with certain measures for the proposed program. Massport will establish the sustainable mandates of the *Logan Airport Sustainable Design Standards and Guidelines* and applicable to the Program to be adhered to either through the tenant lease agreements and/or a SWSA Redevelopment Program tenant operations manual.

Conclusion

The Program includes an extensive array of site and building design, access and circulation, parking, construction management, and operational measures that provide significant environmental benefits and help minimize disruptions to neighboring areas. The previously presented 2009 NPC and this Final EIR/EA demonstrate that the SWSA Redevelopment Program will have no adverse long-term environmental impacts to the airport and the surrounding community. In accordance with the Secretary's Certificate on the 2009 NPC, the draft Section 61 Findings, for use by Massport and State agencies during each individual permitting process, is included herein in Appendix G. The FAA has provided a draft Finding of No Significant Impact (FONSI) for public review (Appendix H).

Federal Requirements

Introduction

To better serve the traveling public, the rental car companies and employees, and to reduce ground transportation and air quality impacts, Massport is proposing to construct a consolidated car rental facility with rental car support facilities in the Southwest Service Area (SWSA) at Boston-Logan International Airport (Logan Airport). The redevelopment of the SWSA is needed because under current conditions and under projected passenger growth conditions (independent of the Project), the SWSA and rental car facilities, as they operate today, are not adequate to meet Massport's or the car rental company's future demand projections. In addition, existing conditions do not facilitate achieving the goals of the East Boston Parking Freeze, which encourages relocation of rental car vehicle parking spaces from the East Boston Parking Freeze areas onto the airport.

The Federal Aviation Administration's (FAA) requisite approval of the Airport Layout Plan and possible project funding from federal funding sources constitute federal actions that trigger the applicability of the National Environmental Policy Act (NEPA) of 1969 as amended¹. The FAA determined that the proposed SWSA Redevelopment Program requires the preparation of an Environmental Assessment (EA). An EA presents information about the project specifically required by NEPA, Council on Environmental Quality (CEQ), and the FAA. For this EA, the FAA is the lead federal agency and the Federal Highway Administration (FHWA) is a Cooperating Agency. The FAA has reviewed and adopted this Final Environmental Impact Report/Environmental Assessment (Final EIR/EA).

This chapter, along with the other chapters of this Final EIR/EA, presents information concerning the SWSA Redevelopment Program, in compliance with NEPA and with the NEPA Regulations of the CEQ and the requirements of the FAA. This Final EIR/EA also fulfills the requirements of the Massachusetts Environmental Policy Act (MEPA), and specifically the Certificate of the Secretary of the Executive Office of Energy and Environmental Affairs (EEA) on the 2009 Notice of Project Change (the 2009 NPC) issued on December 23, 2009. Federal and state law provide for joint environmental review of any project under both federal and state jurisdiction to reduce redundancy and streamline presentation. FAA and the EEA have agreed that this document should serve as a joint federal and state filing. Thus, this document is intended both as an EA for adoption by the FAA, and a Final EIR filed for review under MEPA.

This EA and the analyses contained herein have been prepared by Massport with the supervision and guidance of the FAA, and has been presented to the FAA for review, comment, and adoption. Once signed by



¹ The National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321-4347, January 1, 1970, as amended 1975 and 1994.

the FAA, the EA is officially adopted, and the FAA may use it as the basis to determine whether to make a Finding of No Significant Impact (FONSI). A draft FONSI is provided herein for public review in Appendix H.

The FAA also may use this document to show that the SWSA Redevelopment Program does not cause, or contribute to, violations of the National Ambient Air Quality Standards (NAAQS) and to demonstrate conformity with the Massachusetts State Implementation Plan (SIP); both of which are required under the federal Clean Air Act (CAA) and other FAA environmental policies related to air quality.

Analysis Conditions

The revised construction schedule indicates a date of beneficial occupancy (DBO) for the facility of 2013 which shifts the required future planning horizons to 2013 and 2018, from the 2012 and 2017 planning horizons used in the 2008 Draft EIR/EA. Due to changes in construction phasing, the conditions for the 2008 Draft EIR/EA environmental impact analyses and the proposed Final EIR/EA are compared in Table 8-1 below.

Table 8-1
Revised Analysis Years

2008 Draft EIR/EA	2009 NPC/Final EIR/EA
2007 Existing Condition	2007 Existing Condition
2012 No-Build/No-Action Condition	2013 No-Build/No-Action Condition
2017 No-Build/No-Action Condition	2018 No-Build/No-Action Condition
2012 Build Condition (Phase I)	2013 Interim Build Condition
2017 Build Condition (Phase II/Full Build)	2018 Build Condition (Full Build)

The 2007 Existing Condition is presented for informational purposes as the affected environment.

These analysis conditions were selected so that changes related to background conditions could be separated from changes related to the SWSA Redevelopment Program. A comparison between the Future No-Build/No-Action and Future Build Conditions of the same year show operational changes that are projected to occur as a result of a project.

The Future No-Build/No-Action Alternative would generally leave in place the current site conditions (Figure 1.3) in 2013 and 2018 and assumes future growth in passengers at the airport and, therefore, in rental car customers. The Future No-Build/No-Action Alternative would not provide adequate facilities to meet Massport's or the rental car companies' future demand projections, nor would it facilitate achieving the goals of the Massachusetts Department of Environmental Protection (DEP) East Boston Parking Freeze. While the No-Build/No-Action Alternative is not considered a viable or functional option for the SWSA, it is used to establish the future "baseline" conditions for the technical analyses of this Final EIR/EA.

The Build Alternative is comprised of: (a) the consolidated on- and off-airport rental car operations into a four-level Garage Structure with a Customer Service Center (CSC), rental car maintenance facilities (the quick turnaround areas, or QTAs), and the Unified Bus System; and (b) other ground transportation facilities, including the retained Taxi Pool, Bus and Limousine Pools, and some long-term overflow surface parking

spaces. The Unified Bus System includes the consolidation of the individual rental car shuttle fleets in combination with existing Massport bus routes that service the MBTA Blue Line Airport Station. The space available for rental car service areas within the SWSA would increase significantly and allow for improved rental car operations and environmental benefits. Refer to Chapter 1, *Proposed SWSA Redevelopment Program*, for detailed descriptions of the Build and No-Build/No-Action Conditions.

Consistency with NEPA

The SWSA Redevelopment Program has been reviewed for consistency with the FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*² and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*.³ Based on this evaluation of the environmental impacts under the federal thresholds, the SWSA Redevelopment Program is expected not to have significant environmental impacts. A draft FONSI is included for public review in Appendix H.

For each environmental category, the SWSA Redevelopment Program is compared to the Future No-Build/No-Action Alternative to determine the effect (beneficial or adverse) of the proposed Program. Where the Program would result in an environmental impact, this chapter provides an analysis of whether that impact is significant, in light of FAA guidance on impact thresholds for significant adverse effects provided in FAA Order 1050.1E, Change 1, Appendix A and summarized in Table 8-2.



² FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*, March 20, 2006.

³ FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 28, 2006.

Table 8-2
Overview of NEPA Impact Thresholds for Significant Effects

Impact Category	Impact Threshold for Significant Effects	Would the Proposed Redevelopment Program Cause Significant Effects?
Air Quality	A significant effect would occur if the proposed project would result in emissions of pollutants that would cause, or contribute to, a violation of the National Ambient Air Quality Standards (NAAQS) or (in designated non-attainment/maintenance areas) exceed the prescribed " <i>de minimis</i> " levels of the federal Clean Air Act (CAA) General Conformity Rule.	The Program would not cause nor contribute to violations of the NAAQS or exceed the <i>de minimis</i> levels for ozone (O ₃) or carbon monoxide (CO).
Biotic Resources	A significant effect would occur if the proposed project would impact population dynamics; sustainability; reproduction rates; natural and artificial mortality (aircraft strikes); and the minimum population size needed to maintain the affected population.	The Program would be built on previously disturbed airport property and would have no impact on biotic resources.
Coastal Barriers	A significant effect would occur if the proposed project does not comply with the Coastal Barriers Resources Act of 1982, as amended.	The SWSA is not within the boundaries of a federally-defined coastal barrier.
Coastal Zone Management	A significant effect would occur if the State determines that the proposed project would not be consistent with the Coastal Zone Management Plan.	All proposed work would be on previously developed areas and is consistent with the Coastal Zone Management Plan.
Compatible Land Use	A significant effect would occur if the proposed project would result in a significant noise impact over a noise-sensitive area within the 65 dB DNL contour.	The Program does not cause significant noise impacts.
Construction Impacts	A significant effect would occur if the construction would create significant impacts that could not be mitigated.	All construction impacts would be mitigated. No significant construction impacts would occur.
Section 4(f) /6(f) Resources	A significant effect would occur if the proposed project would involve more than a minimal physical use of a Section 4(f) property or would substantially impair the use of the Section 4(f) property, and mitigation measures would not eliminate or reduce the effects below this threshold. A significant impact under Section 6(f) may occur if any Section 6(f) property would be converted to a use other than public recreation as a result of the proposed action.	The Program would not involve a physical use of a Section 4(f) property. Noise impacts due to the Program would be compatible with existing use/conditions for outdoor recreation areas and would not substantially impair Section 4(f) properties (e.g., the adjacent Memorial Park or nearby Porzio Park).
Federally-Listed Endangered or Threatened Species	A significant effect would occur if the U.S. Fish and Wildlife Service or National Marine Fisheries Service determines that the proposed project would be likely to jeopardize the continued existence of a Federally-listed species, or result in the destruction or adverse modification of Federally designated critical habitat.	No Estimated Habitats of Rare Wildlife, Priority Sites of Rare Species Habitat or Certified Vernal Pools occur on or near the site.
Energy Supply, Natural Resources, and Sustainable Design	A significant effect would occur if the proposed project would cause significant impacts on energy supplies or natural resources.	The SWSA Redevelopment Program would not have a significant adverse impact on energy supply or natural resources.
Environmental Justice	A significant effect would occur if the proposed project would have disproportionately high and adverse human health or environmental effects on minority and low-income populations or disproportionate health and safety risks to children.	The SWSA Redevelopment Program would not cause significant air quality, noise, or other impacts. The Program would not have disproportionate and adverse significant impacts on low-income or minority populations or children.

Table 8-2
Overview of NEPA Impact Thresholds for Significant Effects (continued)

Impact Category	Impact Threshold: Significant Effects	Would the Proposed Redevelopment Program Cause Significant Effects?
Farmlands	A significant effect would occur if the proposed project would result in the loss of farmland if a Form 1006 score registered higher than 200. Significant impacts are determined by the Natural Resource Conservation Service (NRCS) Form AD 1006 method.	The Program does not involve acquisition or conversion of farmland to another use, nor are there any farmlands in the project area.
Floodplains	A significant effect would occur if the proposed project would result in notable adverse impacts to natural and beneficial floodplain values.	The Program would comply with U.S. Department of Transportation Order 5650.2, Floodplain Management and Protection.
Hazardous Materials	A significant effect would occur if the proposed project could not be designed to meet the applicable local, state, Tribal, or Federal regulations on hazardous materials management.	The Program would be designed to meet the applicable local, state, tribal, and federal regulations on hazardous materials management.
Historic Properties	A significant effect may occur if the proposed project would adversely affect a property eligible for the National Register of Historic Places.	The Program would not affect any significant historic, prehistoric or cultural resources, or National Register listed or eligible property.
Induced Socioeconomic Impacts	A significant effect would occur if the proposed project induces secondary impacts on surrounding communities such as shifts in population, public service demands, and changes in business and economic activity (only significant impacts are also significant in the environmental categories of noise, land use, and direct social impacts.)	The Program is expected to improve the environmental conditions in neighborhoods around the airport and would not have any significant negative social or economic impacts.
Light Emissions and Visual Effects	A significant effect would occur if the proposed project would have an adverse effect on human activity or the use or characteristics of properties protected under Section 4(f) that could not be mitigated.	The proposed lighting would not create an annoyance to people in the vicinity of the airport or to properties protected under Section 4(f).
Noise	A significant effect would occur if the proposed project would cause noise-sensitive areas to experience an increase in noise of DNL 1.5 dB or more at or above DNL 65 dB, when compared to the No-Action Alternative. For NEPA purposes, an increase of DNL 3 dB over residential areas between the DNL 60 and 65 dB contours does not cause significant adverse noise impacts, but potential for mitigation in those areas should be weighed.	The Program would not cause noise-sensitive areas to experience an increase in noise of DNL 1.5 dB or more at or above DNL 65 dB, when compared to No Build/No Action Conditions.
Social Impacts ¹	A significant effect would occur if the proposed project may have a significant effect if it results in extensive relocation of residents; extensive relocation of community business that would create severe economic hardship for the community; disruption of local traffic patterns ¹ that substantially reduce the level of service of roads serving the airport and surrounding communities; or a substantial loss in the community tax base.	The Program would not induce an appreciable change in long-term employment, although a number of short-term construction jobs would be created. The changes in vehicle circulation and parking would not reduce the level of service of on airport roads including those in the SWSA and the North Service Area, and would not reduce the level of service in surrounding communities.
Solid Waste	A significant effect would occur if the proposed project could not be designed to meet the applicable local, state, Tribal, or Federal regulations on solid waste management.	The Program would meet the applicable local, state, tribal, and federal regulations on solid waste management.

Table 8-2
Overview of NEPA Impact Thresholds for Significant Effects (continued)

Impact Category	Impact Threshold: Significant Effects	Would the Proposed Redevelopment Program Cause Significant Effects?
Water Quality	A significant effect would occur if the proposed project would exceed state water quality standards, result in water quality problems that could not be avoided or mitigated, or would have difficulty in obtaining required permits.	All federal and state water quality permit requirements will be met for storm and sanitary sewers, drainage, waste treatments, and wetlands. The Program would comply with the requirements of the newly issued NPDES permit for Logan Airport. ⁴
Wetlands	A significant effect would occur if the proposed project would adversely affect the function of a wetland to protect municipal water supplies or sole source aquifers; would substantially alter the hydrology needed to maintain wetlands; would threaten public health, safety, or welfare by substantially reducing a wetland's ability to retain floodwaters; would adversely affect wildlife habitat or fish habitat; or would be incompatible with state wetland strategies.	The Program is proposed to be located on land that is currently paved and impervious and includes no federal wetland resources.
Wild and Scenic Rivers	No specific thresholds have been developed. Significance is determined in consultation with the Department of the Interior.	The SWSA is not adjacent to, nor will it impact, any body of water included in the Wild and Scenic River System Inventory.
Cumulative Effects	Past, present, and reasonably foreseeable future action's cumulative impacts must be compared to the applicable significance threshold for the resource analyzed within a defined time and geographical area.	Significant cumulative impacts are not expected as a result of the Program.

1 Ground Transportation and Parking are included under Social Impacts.

Air Quality

Under FAA Orders 1050.1E, Change 1 and 5050.4B, a significant adverse air quality effect occurs when a proposed project or action at an airport would result in emissions of pollutants that (i) cause, or contribute to, a violation of the National Ambient Air Quality Standards (NAAQS), and/or (ii) exceed prescribed “*de minimis*” levels in designated “non-attainment” or “maintenance” areas. In accordance with these guidelines and criteria, it is FAA’s responsibility to insure that the SWSA Redevelopment Program meets these criteria prior to issuing Airport Layout Plan (ALP) approval or granting Airport Improvement Program (AIP) funding for the proposed project or action.

Regulatory Context

As described in Chapter 4, *Air Quality and Noise*, the entire Boston metropolitan region, including the area around Logan Airport and the SWSA, is currently designated by the U.S. Environmental Protection Agency (U.S. EPA) and DEP as an “attainment” area for all of the National (and state) Ambient Air Quality Standards (NAAQS), with the exception of the eight-hour standard for O₃.^{5,6}



⁴ Authorization to discharge under the National Pollutant Discharge Elimination System, Permit No. MA0000787. July 31, 2007.

⁵ Federal and state AAQS have been established for the following “criteria” pollutants: carbon monoxide (CO), lead Pb), nitrogen dioxide (NO₂), particulate matter less than or equal to 10 and 2.5 microns (PM_{10/2.5}), sulfur dioxide (SO₂) and ozone (O₃).

The “non-attainment” designation for O₃ is further classified as “moderate” and is based upon air quality monitoring data collected by DEP at various locations throughout the eastern Massachusetts region.⁷ As a result of this designation and, in accordance with the federal CAA, DEP has developed a State Implementation Plan (SIP) that calls for the reduction and control of nitrogen oxides (NO_x) and volatile organic compounds (VOC) – two of the primary precursors to O₃ formation.⁸

As a means of demonstrating conformity with the goals and objectives of the SIP for O₃, the General Conformity Rule of the federal CAA establishes minimum thresholds, or *de minimis* levels, for NO_x/VOC emissions.⁹ Program-related emissions below these *de minimis* levels are automatically assumed to conform with the SIP and no further assessment of these emissions is required.¹⁰ The applicable *de minimis* levels for the eastern Massachusetts “non-attainment” area for O₃ are 100 tons per year for either NO_x or VOCs (both Logan Airport and the SWSA are located in this area).

The Boston metropolitan area (including the area surrounding Boston-Logan International Airport and the SWSA) is also presently designated as a “maintenance” area for the pollutant carbon monoxide (CO). This designation means that the area had experienced violations of the NAAQS for this pollutant in the past, but these violations have been remedied, and the former “non-attainment” area is now in “attainment.” For designated CO “maintenance” areas, the prescribed *de minimis* threshold is 100 tons/year and the SIP is called a Maintenance Plan.

Air Quality Impact Analysis

In accordance with the Secretary’s Certificate on the 2009 NPC and with National Environmental Policy Act (NEPA) guidelines, the updated air quality analysis, presented in Chapter 4, *Air Quality and Noise* includes the following analyses:

- Mesoscale Analysis of Ozone Precursors (NO_x, VOCs and CO);
- Microscale Atmospheric Dispersion/CO “Hot-Spot” Modeling and particulate matter assessment greater than 10 and 2.5 microns in diameter, respectively (PM_{10/2.5}); and
- Pedestrian-Level Wind Analysis.

Mesoscale Analysis of Ozone Precursors

Under the General Conformity Rule, the standard approach to determining if project-related emissions exceed the *de minimis* levels is to compare total future-year emissions under the Build to the No-Build



6 This current non-attainment designation applies to the eight-hour NAAQS for O₃ established by the U.S. EPA in 1997. The U.S. EPA has replaced this standard in 2008 and updated “attainment/non-attainment” designations will be made in the 2010/2011 timeframe.

7 This non-attainment area comprises 11 counties, including Barnstable, Bristol, Dukes, Essex, Middlesex, Nantucket, Norfolk, Plymouth, Suffolk, and Worcester). Logan Airport is in Suffolk County.

8 Eight-hour Ozone Attainment Demonstration for the Massachusetts Portion of the Boston-Lawrence-Worcester, Massachusetts-New Hampshire Ozone Non-attainment Area, prepared by the Massachusetts Department of Environmental Protection.

9 40CFR Part 51, Determining Conformity of General Federal Actions to State or Federal Implementation Plans, November 30, 1993.

10 In cases where total emissions of NO_x/VOC exceed the applicable *de minimis* levels, the project is not automatically assumed to conform to the SIP and a formal General Conformity Determination must be made.

Conditions. This difference is considered to be “project-related” and is used to directly compare to the *de minimis* levels in order to determine significant air quality impacts.

Tables 8-3 and 8-4 present the mesoscale analysis results for the 2007 Existing Condition, the 2013 and the 2018 No-Build/No-Action Conditions, and the 2013 Interim Build and 2018 Build Conditions. These results are inclusive of all the emissions associated with the SWSA Redevelopment Program and are presented for two possible Unified Bus System fueling options: (i) Clean Diesel Hybrid and (ii) Compressed Natural Gas (CNG).

Table 8-3
Mesoscale Analysis Results (tons/year) – Unified Bus Program Clean Diesel Hybrid Option

Pollutant	2007	2013			2018		
	Existing	No-Build/No-Action	Build	Difference	No-Build/No-Action	Build	Difference
NO _x	71.4	36.9	14.2	-22.7	19.8	10.0	-9.7
VOCs	16.4	9.7	8.3	-1.5	7.4	6.1	-1.4
<i>De minimis Levels</i>			50			50	
CO	195	177	156	-20.9	182	166	-16.5
<i>De minimis Levels</i>			100			100	

NO_x – nitrogen oxides, VOCs – volatile organic compounds; CO – carbon monoxide

Table 8-4
Mesoscale Analysis Results (tons/year) – Unified Bus Program CNG Option

Pollutant	2007	2013			2018		
	Existing	No-Build/No-Action	Build	Difference	No-Build/No-Action	Build	Difference
NO _x	71.4	36.9	22.1	-14.8	19.8	18.8	-1.0
VOCs	16.4	9.7	9.0	-0.7	7.4	6.9	-0.5
<i>De minimis Levels</i>			50			50	
CO	195	177	158	-19.0	182	168	-14.3
<i>De minimis Levels</i>			100			100	

NO_x – nitrogen oxides, VOCs – volatile organic compounds; CO – carbon monoxide

The results of the mesoscale emissions inventory show that the Program-related emissions of NO_x, VOCs and CO are well within the prescribed *de minimis* levels for each pollutant of concern. Therefore, under the General Conformity Rule, the project is automatically presumed to conform to the SIP for O₃ and the CO “maintenance” areas. Based upon these findings, a formal General Conformity Determination is not required by the FAA and no further assessment of these emissions is needed on a mesoscale level.

As discussed in Chapter 6, *Construction*, emissions of NO_x, VOCs and CO associated with the temporary

construction activities are also well within the applicable *de minimis* levels so these emissions also automatically conform to the SIPs for these pollutants.

Microscale Atmospheric Dispersion Analysis

The results of the Microscale Atmospheric Dispersion Analysis for CO, PM₁₀ and PM_{2.5} at receptors located on, and in the immediate vicinity of, the SWSA show no violations or the NAAQS for these pollutants. The results of the CO “hot-spot” modeling of select roadway intersections in the SWSA area also reveal no expected violations of the NAAQS for this pollutant. Based upon these findings, the Program-related emissions are also not expected to cause, or contribute to, a violation of these standards.

Federal Clean Air Act and State Implementation Plan Compliance

The design and operation of the SWSA Redevelopment Program would reduce motor vehicle emissions at Logan by reducing total VMTs associated with rental cars, taxis, vans, and other vehicles traveling to, from, and moving about the SWSA. This benefit is especially applicable to the Unified Bus System and the corresponding reduction of their VMT and resultant emissions.

With respect to regulatory matters, the SWSA Redevelopment Program would not cause nor contribute to violations of the NAAQS and it conforms to the applicable SIP's for the eastern Massachusetts O₃ non-attainment region and the Boston CO maintenance area. In particular, the SWSA Redevelopment Program would not:

- Increase the frequency or severity of any existing NAAQS violations in the area of Logan Airport;
- Cause or contribute to new NAAQS violations in the area of Logan Airport;
- Delay the timely attainment of any NAAQS either locally or state-wide; or
- Impede any SIP-based measures in making required progress toward the attainment of any NAAQS.

In conclusion, the Program-related emissions are below the prescribed *de minimis* levels; therefore, no formal Conformity Determination is needed.



Biotic Resources

Under FAA Orders 1050.1E, Change 1 and 5050.4B, a significant adverse effect occurs when the proposed project would impact population dynamics; sustainability; reproduction rates; natural and artificial mortality (aircraft strikes); and the minimum population size needed to maintain the affected population.” While there is not a specific threshold for significant impacts to biodiversity provided in FAA Order 1050.1E, Change 1, for the purposes of this evaluation a significant impact is one that could cause one or more existing species to be eliminated from the project areas. The project must be reviewed to determine whether it would affect state-listed species, a publicly owned wildlife or waterfowl refuge, water resources such as wetlands and



¹¹ FAA Order 1050.1E, Change 1, Environmental Impacts: Policies and Procedures, March 20, 2006; FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 28, 2006.

groundwater; or whether it would involve the impoundment, diversion, deepening, controlling, modifying, polluting, dredging, or filling of any body of water.

As discussed in Chapter 5, *Natural Resources and Drainage*, the SWSA Redevelopment Program would be located on existing paved surfaces and would have no impact on state-listed species, biotic communities, or any wildlife or waterfowl refuge. There are no identified fish or wildlife habitats in the project area. According to the *Massachusetts Natural Heritage Atlas* (13th Edition, effective October 1, 2008) mapping of Priority and Estimated Habitats indicates no areas of habitat within the immediate vicinity of the SWSA.¹² The SWSA Redevelopment Program would not affect existing wetlands nor would it involve the impoundment, diversion, deepening, controlling, modifying, polluting, dredging, or filling of any body of water.

Due to the shellfish beds near the Maverick Street Outfalls, the selections of Best Management Practices (BMPs) are limited, according to the DEP *Stormwater Management Policy and Guidelines* (specifically, Standard No. 6). As described in Chapter 5, *Drainage and Wastewater*, all proposed treatment and pre-treatment BMPs would be sized for the full 1-inch of Water Quality Volume to meet the requirements for Standard No. 6.

The SWSA Redevelopment Program would be built on previously disturbed airport property and would have no impact on state-listed species, biotic communities, or any wildlife or waterfowl refuge. Therefore, the SWSA Redevelopment Program would have no significant impact on biotic resources.



Coastal Barriers

Under FAA Orders 1050.1E, Change 1 and 5050.4B, a significant adverse effect occurs when the proposed project does not comply with the Coastal Barriers Resources Act of 1982, as amended.¹³ The Coastal Barriers Resources Act prohibits development on undeveloped coastal barriers along the Atlantic and Gulf Coasts, as identified by the U.S. Fish and Wildlife Service.

The SWSA is not within the boundaries of a federally-defined coastal barrier. Therefore, the proposed project would have no impact on coastal barriers.



Coastal Zone Management

Under FAA Orders 1050.1E, Change 1 and 5050.4B, a significant adverse effect occurs if the State determines that the proposed project would not be consistent with the Coastal Zone Management Plan. Consistency review with an approved state coastal zone management program is conducted through the applicable state and local review process. If the state coastal zone management agency does not object to the proposed project, no further action is necessary.

The SWSA Redevelopment Program would have no direct or indirect impact on resource areas, public access, water-dependent businesses, recreation, or other maritime interests in the coastal zone because all proposed



¹² MassWildlife Division of Fisheries & Wildlife, *Massachusetts Natural Heritage Atlas*, 13th Edition, effective October 1, 2008.

¹³ FAA Order 1050.1E, Change 1, Environmental Impacts: Policies and Procedures, March 20, 2006; FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 28, 2006.

work would be on the previously developed SWSA Site. Chapter 7, *Natural Resources and Drainage* of the 2008 Draft EIR/EA demonstrated the Program's consistency with the Massachusetts Coastal Zone Management (CZM) policies.



Compatible Land Use

Under FAA Orders 1050.1E, Change 1 and 5050.4B, a significant adverse effect occurs when the proposed project would result in a significant noise impact over a noise-sensitive area within the DNL 65 dB contour.¹⁴ When no significant noise impacts are expected to result from the proposed project, a similar conclusion can be drawn with respect to land use impacts.

The purpose of the SWSA Redevelopment Program is to enhance efficiency and consolidate dispersed car rental operations into a single location. No noise or other impact category thresholds would be exceeded by the project nor would there be noise-related land use impacts to the surrounding communities see Noise section below. The Program is restricted to activities and purposes compatible with typical airport operations and would not alter the existing off-airport land use patterns.

The Program would be located within the Boston Zoning Commission's Logan International Airport (LIA) Subdistrict. Although Massport is not subject to local zoning regulations, the Program would nonetheless be consistent with the East Boston Neighborhood District Zoning Article (Article 53), which includes establishment of the LIA Subdistrict.

Based on the noise analysis conducted for the SWSA Redevelopment Program (presented in Chapter 4, *Air Quality and Noise*), the Program is not expected to result in a significant noise impact to noise-sensitive land uses (e.g. residential) within the DNL 65 dB contour. The SWSA Redevelopment Program would have no significant land use impacts. For further discussion of compatibility with plans and policies, see the *Consistency with Plans and Policies* Section of Chapter 3, *Planning and Sustainable Design* of the 2008 Draft EIR/EA.



Construction Impacts

Under FAA Orders 1050.1E, Change 1 and 5050.4B, a significant adverse effect occurs when construction would create significant impacts that could not be mitigated.¹⁵ The environmental consequences of project-related temporary construction activities must be evaluated in terms of dust, aircraft and heavy equipment emissions, stormwater runoff containing sediment and/or spilled or leaking petroleum, and noise.

As described in Chapter 6, *Construction*, the construction phasing plan aims to minimize disruptions for both the operations within the SWSA as well as the overall airport. Construction is anticipated to commence in 2010. All ConRAC-related facilities (the Garage Structure, CSC, permanent QTA's 1 and 4, and temporary QTA's 2 and 3) would be constructed first. By early 2015, the entire Program would be constructed and



¹⁴ FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*, March 20, 2006; FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 28, 2006.

¹⁵ FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*, March 20, 2006; FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 28, 2006.

operational. Another key change to the construction phasing includes the temporary relocation of the Taxi Pool to Lot B on Harborside Drive (in place of the Avis rental car operations).

Methods of construction for the SWSA Redevelopment Program are currently being finalized. In general, it is assumed that pre-cast concrete construction would be used for the Garage Structure and CSC with concrete provided by existing, off-airport commercial batch plants. Bus ramps would also be precast concrete. A cast-in-place concrete option would also be considered for efficiency and cost savings.

Temporary construction impacts have been considered in terms of truck traffic and associated emissions (air quality impacts), dust, noise, stormwater runoff, and construction debris/waste. During construction there would be limited short-term impacts from added vehicle trips to the SWSA by construction equipment, fugitive dust, construction equipment noise, negligible amounts of sediment added to the area's stormwater collection system, and demolition materials and other routine construction wastes in need of proper disposal. Minor, transient noise impacts may occur during the temporary construction period.

As described in Chapter 6, *Construction*, since the filing of the 2008 Draft EIR/EA, the construction sequencing plan has been revised. The Program would be constructed in a single phase (with sub-phases, including enabling projects). Key changes related to enabling projects include:

- The Taxi Pool would be temporarily relocated to Lot B with roadway and signal modifications to Harborside Drive at the Hyatt intersection to mitigate traffic conditions. Upon completion of the ConRAC facility, the Taxi Pool would be relocated back to the SWSA north of Porter Street.
- The Cell Phone Lot (currently at Lot B) would be temporarily relocated to an existing open parking lot across from the Logan Airport gas station. The intersection of Hotel Drive and the service road would be reconfigured to improve traffic flow and reduce wait times for all traffic at this intersection. The Cell Phone Lot may then be relocated back to Lot B once the Taxi Pool is relocated back to the SWSA.
- The Bus and Limousine Pools would be temporarily relocated to the North Service Area (NSA), which would require local site improvements including roadways (discussed below), drainage, and underground utilities. Upon completion of the ConRAC facilities, the Bus and Limousine Pools would be relocated back to the SWSA east of Jeffries Street.

The construction traffic and air quality analyses and evaluation of potential noise impacts have been updated to reflect the projected traffic diversions and increase in VMTs associated with these changes and are provided in Chapter 6, *Construction*. The sections below provide a summary of the construction impact analyses.

Construction Truck Traffic

Massport's agreement with the Contractor or Construction Manager would specify that direct construction truck traffic access to a staging/laydown area within the SWSA construction site be utilized as much as possible during the duration of construction. However, there could be times during peak garage erection that precast concrete structural members would need to be staged within an off-site location. Due to oversized vehicle restrictions of the Harbor Tunnels and the planned construction of the Chelsea River Bridge in 2012, Massport will not locate any staging/laydown area within South Boston or Chelsea. Although a specific site has not been identified, the most likely location for the staging/laydown area, if necessary, would be along

McClellan Highway (Route 1A), north of Neptune Road. A site in this general area would provide excellent access to the regional highway network and the SWSA construction site. It is anticipated that all deliveries from construction suppliers to this Route 1A staging/laydown site would be via Route 1A southbound, in most cases because oversize loads would be prohibited from the Callahan and Ted Williams Tunnels. As discussed in Chapter 6, *Construction*, all Program-related construction trucks trips would be routed in any of the following ways (Figure 6.11):

- ▶ Access via McClellan Highway (Route 1A) southbound and Ramp 1A-S; egress via SR-14, SR-2, and the Airport Exit ramp from Terminal E to Route 1A northbound. (Note: Trips between the potential Route 1A staging area would use these routes)
- ▶ Access via Callahan Tunnel, Route 1A Northbound, and Ramp 1A-S; egress via SR-14, SR-2, the Airport Exit ramp from Terminal E, Route 1A Southbound, and Sumner Tunnel
- ▶ Access via Ted Williams Tunnel, Ramp T-S, Hotel Drive, and Harborside Drive; Egress via Harborside Drive, Ramp S-T, and Ted Williams Tunnel.

After Ramp 1A-S is relocated to make room for new Ramp S-D, SR-14 would become one-way southbound, and thus, unavailable for the egress route to Route 1A and the Sumner Tunnel. At this time, construction vehicles would be directed to egress via Harborside Drive, Hotel Drive, SR-2 to the Airport Exit ramp from Terminal E.

Refer to Chapter 6, *Construction* for details on projected construction truck traffic volumes and proposed roadway improvements related to construction routing (specifically, the temporary relocation of the Bus and Limousine Pools to the NSA).

Construction Air Quality

As presented in Chapter 6, *Construction*, the predicted construction-related emissions range from 4.4 to 29.5 tons per year for NO_x, from 0.6 to 4.1 tons per year for VOCs, and from 13.6 to 46.8 tons per year for CO. These values are well within the applicable CAA General Conformity Rule *de minimis* levels of 50 tons for NO_x/VOCs and 100 tons for CO and, therefore, automatically conform to the SIP. Therefore, the emissions are assumed under federal regulations to comply with the State Implementation Plan and a formal General Conformity determination is not required.

Construction Noise

During construction of the SWSA Redevelopment Program, noise would be generated by truck movement, heavy equipment operations, and general construction work. Temporary construction activities would be limited by the City of Boston noise ordinance regulations. Given the distance between the SWSA and sensitive receptors in the residential neighborhoods and schools of East Boston, and the mitigation of temporary construction-related noise impacts (which would be included in all construction contract specifications) construction noise would be limited to minor, temporary effects. Refer to Chapter 6, *Construction* for a more detailed discussion.

In its construction contracts, Massport specifically prohibits delivery of materials through residential streets, creation of borrow pits and disposal of spoil, burning of debris, and water pollution from erosion. In addition, project design would incorporate appropriate environmental protection measures. All temporary construction impacts would be mitigated; therefore, a significant adverse effect would not occur.



Section 4(f)/6(f) Resources

Section 4(f) properties are publicly owned parks, recreation areas, wildlife or waterfowl refuges, or historic properties or archaeological sites on or eligible for the National Register of Historic Places. Under FAA Orders 1050.1E, Change 1, and 5050.4B, a significant adverse effect occurs when the proposed project involves more than a minimal physical use of a Section 4(f) property or is deemed a “constructive use,” substantially impairing the Section 4(f) property, and mitigation measures would not eliminate or reduce the effects below this threshold.¹⁶ Section 4(f) states that no project may use any publicly owned park, recreation area, wildlife and/or waterfowl refuge, or historic site unless there is no feasible and prudent alternative.

Section 6(f) of the Land and Water Conservation Fund Act of 1965 (Section 6(f)) prohibits the conversion to non-recreational use property acquired or developed with grants from the Land and Water Conservation Fund Act without approval of the National Park Service.¹⁷ Section 6(f) lands can be converted only if the conversion is in accord with the then-existing comprehensive statewide outdoor recreation plan and if there is a substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location. Because recreational resources that receive Land and Water Conservation Fund Act funding are often also Section 4(f) properties, the Section 4(f) process is used to assess and minimize takings of Section 6(f) lands.

A Section 4(f) “use” is defined to occur when:

- Land from a Section 4(f) site is permanently incorporated into a transportation facility;
- There is a temporary occupancy of land that is adverse in terms of the Section 4(f) statute’s preservationist purpose; or
- The proximity impacts of the transportation project on the Section 4(f) sites, without acquisition of land, are so great that the purposes for which the Section 4(f) site exists are substantially impaired, i.e., there is a constructive use of the Section 4(f) site.

FAA defines a physical use as a direct physical impact to Section 4(f) land, such as a physical taking or acquisition for incorporation into a proposed project.

A constructive use of a Section 4(f) property occurs when the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially diminished. Constructive uses may include reduced air quality, noise impacts, access restrictions, vibration impacts, ecological intrusions, or visual impacts that substantially diminish the activities, features, or attributes of a resource that contribute to its significance or enjoyment. The noise



¹⁶ FAA Order 1050.1E, Change 1, Environmental Impacts: Policies and Procedures, March 20, 2006; FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 28, 2006.
¹⁷ *Section 6(f) of the Land and Water Conservation Fund Act of 1965*, codified at Title 16 U.S. Code, Section 4601 8(f)(3) (Section 6(f))

thresholds for noise-compatible land uses vary according to the type of use of the property. Noise levels of up to DNL 75 dB are considered compatible with outdoor recreation areas such as parks and athletic fields.

Two Section 4(f) properties are in the vicinity of the SWSA: (i) the East Boston Memorial Stadium Park; and (ii) Porzio Park (see Figure 1.16).

The 17.7-acre East Boston Memorial Stadium Park is located off-airport adjacent to and north of the SWSA site and includes former Massport land that was provided to the City of Boston in 2003 and was used to expand the park. The facilities include a baseball field, softball field, little league field, football/lacrosse/rugby field, play equipment/tot lot, cricket, a passive area, and a running track. Pedestrian and vehicular access is at the southwest corner of the park, via a paved area. The park facilities are operated and maintained by the Boston Parks and Recreation Department.

The 2.4-acre Porzio Park is located in the Jeffries Point neighborhood of East Boston between Sumner and Maverick Streets. The park faces Boston Harbor and is approximately 200 feet from the SWSA. A large developed parcel on Maverick Street separates the Site from Porzio Park. The facilities include a basketball court, tennis courts, a street hockey rink, play equipment/tot lot, a spray fountain, handball courts, and a passive area. The park facilities are operated and maintained by the Boston Parks and Recreation Department. Porzio Park is primarily paved surface with minimal landscaping.

The SWSA Redevelopment Program would not involve a physical use of a Section 4(f) property as all proposed work is within the existing SWSA. Noise impacts due to the proposed Program would be compatible with existing use/conditions for outdoor recreation areas and would not substantially impair the Section 4(f) property. Therefore, the Program is not expected to result in any constructive uses of Section 4(f) properties.



Federally-Listed Endangered or Threatened Species

Under FAA Orders 1050.1E, Change 1 and 5050.4B, a significant adverse effect occurs when the U.S. Fish and Wildlife Service or National Marine Fisheries Service determine that the proposed project would be likely to jeopardize the continued existence of a federally listed species, or result in the destruction or adverse modification of federally designated critical habitat.¹⁸

Criteria for reviewing potential impacts to endangered species of flora and fauna are provided in Section 7 of the Endangered Species Act. Specifically, FAA Orders 1050.1E, Change 1 and 5050.4B state that the FAA must determine if a proposed action under its purview would affect a federally-listed species or habitat critical to that species.

As discussed in Chapter 5, *Natural Resources and Drainage*, according to the *Massachusetts Natural Heritage Atlas* (13th Edition), no Estimated Habitats of Rare Wildlife, Priority Sites of Rare Species Habitat or Certified Vernal Pools occur on or near the SWSA (Figure 5.1). The Massachusetts list of rare species includes all



¹⁸ FAA Order 1050.1E, Change 1, Environmental Impacts: Policies and Procedures, March 20, 2006; FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 28, 2006.

federally-listed species known to occur in the state. Therefore, the SWSA Redevelopment Program would not have significant impacts on federally-listed species or critical habitat.



Energy Supply, Natural Resources, and Sustainable Design

Under FAA Orders 1050.1E, Change 1 and 5050.4B, a significant adverse effect occurs when the proposed project would cause significant adverse impacts on energy supplies or natural resources. Criteria for evaluating impacts on energy supply and natural resources involve review of changed energy consumption demands. Ground vehicle fuel consumption is examined only if the project adds appreciably to access time or if there is a substantial change in movement patterns for on-airport services and other vehicles. Examination of the use of natural resources other than fuel is necessary only when the action involves a need for unusual materials or those in short supply. For most projects, FAA Orders 1050.1E, Change 1 and 5050.4B states an automatic assumption of no significant impacts.

As discussed in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, sustainable planning, design and operations have been incorporated into the SWSA Redevelopment Program and, as a result, the Program is expected to offer environmental benefits related to energy demand. Many of the benefits would accrue from implementing the Unified Bus System with low-emission/alternative fuel as well as pedestrian and bicycle facilities, all of which lead to reduced vehicle-miles-traveled, in turn reducing conventional fuel use and improving air quality through reduced emissions. Additionally, the Program will be designed, constructed, and operated to be eligible for Leadership in Energy and Environmental Design (LEED®) certification. Massport will work to meet the goals of the MA LEED Plus program (established by the Commonwealth's Executive Office for Administration and Finance) and strive to achieve a LEED Silver rating or better. Meeting the MA LEED Plus requirements ensures that the Program would reduce its overall energy consumption by at least 20 percent. Furthermore, the LEED certified program is expected to lessen environmental impact both locally and regionally during the construction phases (reduced construction/demolition waste and application of environmentally-friendly materials) and during long-term operation (efficient energy systems, controls, and reduced water usage). The SWSA Redevelopment Program would not have a significant adverse impact on energy supply or natural resources.



Environmental Justice

Under FAA Orders 1050.1E, Change 1 and 5050.4B, a significant adverse effect occurs when the proposed project would have disproportionately high and adverse human health or environmental effects on minority and low-income populations or disproportionate health and safety risks to children.¹⁹ The environmental justice analysis considers the potential for federal actions to cause disproportionate and adverse effects on low-income or minority populations and children. Environmental justice considerations depend on the potential for significant impacts in other environmental categories, therefore results of the environmental impact studies such as noise and air quality determined if significant impacts would occur. Determinations of significant effect were made in accordance with FAA Order 1050.1E, Change 1 and other relevant federal or state regulations.



¹⁹ FAA Order 1050.1E, Change 1, Environmental Impacts: Policies and Procedures, March 20, 2006; FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 28, 2006.

Disproportionate and adverse significant impacts on low-income or minority populations or children are predicated on anticipated significant impacts in other NEPA categories such as air quality or noise. The SWSA Redevelopment Program would not cause significant air quality, noise, or other impacts and therefore would not have disproportionate and adverse significant impacts on low-income or minority populations or children. The Program is anticipated to reduce community impacts compared to the future No-Build/No-Action Conditions.



Farmlands

Under FAA Orders 1050.1E, Change 1 and 5050.4B, a significant adverse effect occurs when the proposed project would result in the loss of farmland that ranks higher than a score of 200 on a Natural Resource Conservation Service (NRCS) Form AD 1006.²⁰ Proposed projects are reviewed to determine whether they would result in the conversion of farmland to non-agricultural use. Farmlands are defined and classified by importance under the Farmland Protection Policy Act. When farmlands are not involved in the proposed project, further review is not applicable.

The Program does not involve acquisition or conversion of farmland to another use, nor are there impacts on farmlands within the SWSA. Thus, the SWSA Redevelopment Program would have no impact on farmlands as defined by the Farmland Protection Policy Act.²¹



Floodplains

Under FAA Orders 1050.1E, Change 1 and 5050.4B, a significant adverse effect occurs when the proposed project would result in notable adverse impacts to natural and beneficial floodplain values.²² Federal Emergency Management Agency (FEMA) Flood Insurance Rate maps must be consulted to determine whether a proposed project site is within a 100-year flood zone. If the project site is not within a 100-year flood zone, it is assumed that there are no floodplain impacts and no further analysis is needed.

As discussed in Chapter 5, *Natural Resources and Drainage*, almost all of the SWSA is located outside the limits of the 100-year flood zone (Figure 5.1). The Federal Emergency Management Agency designates a small area on the SWSA near Boston Harbor to be within Flood Zone Designation AE, defined as a one percent annual chance flooding, as shown on Panel 250286-011D of the Flood Insurance Rate Map for Boston, dated November 2, 1990. The Program would be constructed in accordance with all applicable federal, state, and local building and construction codes, and this action would comply with U.S. Department of Transportation Order 5650.2, Floodplain Management and Protection.²³ The SWSA Redevelopment Program would not result in significant floodplain impacts.



20 FAA Order 1050.1E, Change 1, Environmental Impacts: Policies and Procedures, March 20, 2006; FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 28, 2006.

21 U.S. Department of Agriculture, Farmland Protection Policy Act (FPPA), Subtitle I of Title XV, Section 1539-1549, June 17, 1994.

22 FAA Order 1050.1E, Change 1, Environmental Impacts: Policies and Procedures, March 20, 2006; FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 28, 2006.

23 U.S. Department of Transportation, Order 5060.2: *Floodplain Management and Protection*, April 23, 1979.



Hazardous Materials

Under FAA Orders 1050.1E, Change 1 and 5050.4B, a significant adverse effect occurs when the proposed project could not be designed to meet the applicable local, state, tribal, or federal regulations on hazardous materials management.²⁴

The Massachusetts Contingency Plan (MCP), 310 CMR 40, administered by the DEP regulates the remediation of releases of oil or hazardous materials into the environment and governs any necessary groundwater remediation at the airport. Massport continues to ensure that all areas of subsurface contamination discovered at the airport are properly assessed, remediated, and brought to regulatory closure, in accordance with the MCP. As discussed in Chapter 9, *Soil and Groundwater Conditions* of the 2008 Draft EIR/EA, there are eight known MCP sites located within the SWSA. Hazardous materials encountered during the development would be addressed in accordance with applicable MCP regulations.

The SWSA Redevelopment Program would be designed to meet the applicable local, state, tribal, and federal regulations on hazardous materials management. Therefore, the Program would not cause significant hazardous materials impacts.



Historic Properties

Under FAA Orders 1050.1E, Change 1 and 5050.4B, a significant adverse effect occurs when the proposed project may cause an adverse effect on a property listed on or eligible for the National Register of Historic Places.²⁵ Criteria for this category of review are based upon compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800). Consideration must be given to whether any properties on, or nominated for inclusion in, the National Register of Historic Places are within the area of the proposed project, and to determine whether significant archaeological and related resources may be lost or destroyed by project.

The Program is entirely located within the airport property boundary, and no buildings on the SWSA, nor any other Logan Airport structures, are on or eligible for the National or State Register of Historic Places or as City of Boston Landmark Structures.

Since no buildings on the SWSA, nor any other Logan Airport structures are listed on (or are determined eligible for nomination for) the National or State Register Historic Places or as City of Boston Landmark Structures, the SWSA Redevelopment Program is not expected to have any significant impact on historic properties. Impacts on archaeological resources are not anticipated because the SWSA is previously disturbed and developed land. If excavation results in unanticipated discovery of archaeological materials or properties, Massport would coordinate with Massachusetts Historical Commission and comply with applicable federal and state regulations.²⁶



²⁴ FAA Order 1050.1E, Change 1, Environmental Impacts: Policies and Procedures, March 20, 2006; FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 28, 2006.

²⁵ FAA Order 1050.1E, Change 1, Environmental Impacts: Policies and Procedures, March 20, 2006; FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 28, 2006.

²⁶ The Massachusetts Historical Commission (MHC) is the State Historic Preservation Office. The MHC is responsible for nominating properties for the National Register of Historic Places and reviewing impacts to cultural resources

Induced Socioeconomic Impacts

Under FAA Orders 1050.1E, Change 1 and 5050.4B, a significant adverse effect occurs when a development project induces secondary impacts on surrounding communities such as shifts in population, public service demands, and changes in business and economic activity.²⁷ However, these induced socioeconomic impacts are not considered to be significant unless there are also significant impacts in the environmental categories of noise, land use, and direct social impacts. Because there would be no significant impacts in any of these categories, it can be inferred that, under FAA Orders 1050.1E, Change 1 and 5050.4B, the SWSA Redevelopment Program would have no significant induced socioeconomic impacts.

The Program would result in some short-term construction-related employment with resulting taxable wages and salaries. This Program is expected to reduce the amount of rental car company activity off-airport. In general the Program is responding market demand and, therefore, is expected to improve the economic as well as environmental conditions in neighborhoods around the airport and not to induce any significant negative economic impacts.

Light Emissions and Visual Effects

Under FAA Orders 1050.1E, Change 1 and 5050.4B, a significant adverse effect occurs when the proposed project would have an adverse effect on human activity or the use or characteristics of properties protected under Section 4(f) that could not be mitigated.²⁸ Proposed projects must be evaluated to determine the extent to which project lighting would create an annoyance to people in the vicinity of the Airport. The FAA's NEPA criteria for this evaluation include site location, lighting system design, proposed shielding, and other mitigation measures.

As discussed in Chapter 1, *Proposed SWSA Redevelopment Program*, the Program has been re-designed to be responsive to neighborhood context, especially the height of the Garage Structure and the façades viewable from local streets, homes, and open space (the western and southern facing sides). Specific issues include community concerns such as air emissions, noise, light spill, and visual impacts. Because the SWSA Redevelopment Program would be partially viewable from surrounding properties, the building design incorporates aesthetically pleasing exterior elements and façade treatments with appropriate texture, grain, and scale of detail. Refer to Figures 1.6 and 1.7 for illustrations of the Program's response to design criteria aimed at reducing community impacts. Figures 1.17a through 1.17c show community views of the Program.

In order to minimize impact on the adjacent community and continue to meet the sustainable and economic goals of the Program through the avoidance of mechanical ventilation of the Garage Structure, Massport has made significant changes to the design of the Garage Structure, including the elimination of the commercial parking component, reduction of the height of the structure, shifting of the Garage Structure away from the

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under Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800). The National Register of Historic Places is administered by the National Park Service, which is part of the U.S. Department of the Interior.

27 FAA Order 1050.1E, Change 1, Environmental Impacts: Policies and Procedures, March 20, 2006; FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 28, 2006.

28 FAA Order 1050.1E, Change 1, Environmental Impacts: Policies and Procedures, March 20, 2006; FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 28, 2006.

community, addition of landscape buffer area, and extensive façade treatments (partial enclosure) of the sides of the Garage Structure that face the community (the southern and western facades). The proposed architectural façade treatments of the Garage Structure have been designed to screen from the community air, light and noise. The proposed façade treatments provide minimum openness while providing the required ventilation for an ‘open parking garage’, as defined by the building code. Additionally, pole lighting on the roof level, and ceiling-mounted fixtures on lower decks would be installed with cut-off features to avoid light spill into the neighborhood.

Section 4(f) parklands would not be impacted by the Program. The proposed lighting and views would not create an annoyance to people in the vicinity of the Airport. Therefore, the SWSA Redevelopment Program would not cause adverse light emissions or visual effects.



Noise

To determine significant levels of noise, the FAA recommends that increases in DNL be used to identify or “screen” for noise sensitive areas where additional analysis could provide useful information to both the public and to decision makers. For noise-sensitive areas (i.e., residences, schools, hospitals, nursing homes, etc.) where exposure is:

- 65 dB DNL or higher, a 1.5-dB increase is used to identify areas needing additional analysis, or
- In the range of DNL 60 to 65, a 3-dB increase in DNL is considered a significant impact when compared to the No-Build Condition.

These comparisons are made between the proposed project and the no-action scenario in the same future year. When increases exceed these thresholds, additional analysis and examination of mitigation measures may be useful. When increases do not exceed the above criteria, no noise impact due to increased sound levels is assumed to have occurred, and additional analysis and examination of mitigation measures are not required.²⁹

As presented in Chapter 6, *Noise* of the 2008 Draft EIR/EA, ground-based noise sources including rental car operations, vehicular traffic, and airport ground operations were considered in combination with airport flight operations. Chapter 4, *Air Quality and Noise* provides an updated noise assessment based on the revised program, as described and analyzed in this Final EIR/EA.

There are no significant noise impacts associated with the Program. The revised and reduced SWSA Redevelopment Program incorporates a number of changes that are expected to result in lower noise levels than the 2007 Existing and future No-Build/No-Action Conditions, in some cases, and that were projected for the 2008 Draft EIR/EA (i.e., single-event noise from the upper levels of the Garage Structure). Future traffic volumes (peak hour traffic and daily vehicle-miles-traveled [VMT] totals) and, therefore, on-site traffic noise levels, would be lower under the future Build Conditions when compared to the 2007 Existing and future No-Build/No-Action Conditions due to the consolidation of rental car operations combined with the proposed ramp, roadway and intersection improvements. Additionally, the consolidation of the rental car shuttle bus



²⁹ U.S. Department of Transportation, Federal Aviation Administration, Office of Environment and Energy, Policy and Procedures for Considering Environmental Impacts, FAA Order 1050.1E, Change 1. March 20, 2006.

fleets into the Unified Bus System, the projected traffic volumes entering and leaving the SWSA (VMT) under the future Build Conditions would be approximately 2 percent less than the traffic volumes under the future No-Build/No-Action Conditions. Furthermore, traffic noise associated with the rental car shuttle bus fleets would be reduced with the Unified Bus System and because the Unified Bus System will operate farther away from the airport edge and community on the opposite side (airside) of the Garage Structure as compared to the 2007 Existing and future No-Build/No-Action Conditions.

A key design change that resulted in noise benefits was the reduction (by one level) and relocation of the Garage Structure. The location of the Garage Structure has been shifted away from the residential area along the eastern end of Maverick Street, those opposite the existing noise barrier. Also, the height of the Garage Structure has been reduced, which reduces the extent to which sound (specifically, single-event noise) from the upper levels propagate to the community unabated. As a result of the modifications to the location of the Garage Structure, sound paths from the façades to nearby homes are substantially farther (over two to about five times farther depending on the location) when compared to the proposed location of the Garage Structure in the 2008 Draft EIR/EA. Refer to Chapter 4, *Air Quality and Noise* for details on additional program changes and the expected noise-related benefits.

Noise reduction measures proposed as part of the site design include (Figure 4.5):

- Quick Turnaround Area (QTA) improvements, including:
 - Eliminating of outdoor loudspeakers;
 - State-of-the-art car drying that does not include blowers; and
 - Enclosed vacuum blowers.
- A 6-foot high wall with landscaping is proposed on the south edge of the Bus and Limousine Pool area (as previously proposed to buffer the previously proposed QTAs east of Jeffries Street) to block noise and light emissions coming from as well as screen views of the Bus and Limousine Pool area. The wall and landscaping are not present under the 2007 Existing Condition nor is it proposed under the future No-Build/No-Action Conditions.
- A gateway feature flanking either side of the intersection of Tomahawk Drive and Harborside Drive.
- Spiral helix ramps eliminated; replaced by series of straight ramps on the garage perimeter (south-facing ramp to be screened).



Social Impacts

Under FAA Orders 1050.1E, Change 1 and 5050.4B, a significant adverse effect occurs when the proposed project results in residential or business relocation, disruption of established communities, alteration of off-airport surface transportation patterns, disruption of orderly, planned development, or generation of an appreciable change in employment.³⁰



³⁰ FAA Order 1050.1E, Change 1, Environmental Impacts: Policies and Procedures, March 20, 2006; FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 28, 2006.

Other than the expected reduction in rental car company activities off-airport, the Program would not require or lead to residential or business relocation, community disruption, or disruption of development. The movement of rental car operations on-airport would result in minor alteration of surface transportation patterns. Other than slight temporary increases in traffic during construction, there would be no identifiable impact on community infrastructure. The Program would not induce an appreciable change in long-term employment, although a number of short-term construction jobs would be created. Based on the criteria and findings described above, the SWSA Redevelopment Program would have no significant social impacts.

Ground Transportation

Ground Transportation is not a separate review category under FAA Orders 1050.1E, Change 1 and 5050.4B. However, the ground transportation impacts are evaluated under social impacts where the threshold is disruption of local traffic patterns that substantially reduce the level of service of roads serving the airport and surrounding communities. Ground transportation is discussed in this EA because the SWSA Redevelopment Program would cause changes to parking (including the loss of some existing long-term overflow commercial surface parking) and the vehicle circulation system on the Airport. Community disruption is not anticipated. Ground transportation issues relating to the Program and its construction are presented in Chapter 3, *Surface Transportation* and in Chapter 6, *Construction*, respectively.

The SWSA is located in close proximity to the Airport's terminal areas with access to and from the Airport roadways and regional highway system as well as to the MBTA Blue Line (Airport Station). Harborside Drive is a four-lane airport service roadway situated along the eastern border of the SWSA, separating it from the airport proper and provides direct connections to the terminal area roadways and Interstate 90 (I-90) and Interstate 93 (I-93) via the Ted Williams Tunnel. Access to Route 1A and the Sumner/Callahan Tunnels is available from the terminal area roadways.

The Program will be served by a Unified Bus System (the consolidation of the existing rental car shuttle bus fleets combined with existing Massport bus routes that service the MBTA Blue Line (Airport Station) and utilization of clean/low-emitting fuel). The Unified Bus System will serve all of the rental car companies at the SWSA (employees and customers) and MBTA riders. The Unified Bus System will replace the separate shuttle operations now provided by the eight rental car companies; thereby, reducing the rental car shuttle bus fleet by 70 percent (from 94 vehicles to 28 vehicles). This would result in improved customer service and less curbside congestion (the existing 100 or so shuttle trips per hour are replaced by 15 to 20 shuttle trips per hour). When compared to the 2018 No-Build/No-Action Condition, the 2018 Build Condition would reduce daily vehicle-miles-traveled (VMT) related to shuttle vehicles from by 65 percent.

Since the filing of 2008 Draft EIR/EA, Massport has continued planning for the North Service Area (NSA). The North Service Area section in Chapter 3, *Surface Transportation* provides revised analysis that reflects the inclusion of traffic associated with the Bus Maintenance Facility in the Future 2013 No-Build Condition and new access and egress routes for the bus/limousine traffic in the Future Build Condition analysis. Refer to Chapter 6, *Construction* for an updated construction traffic analysis and description of proposed truck routing.

The changes in vehicle circulation and parking would not reduce the level-of-service of on-airport roads including those in the SWSA and the NSA, and would not reduce the level of service in surrounding

communities. Therefore, the proposed SWSA Redevelopment Program would not cause significant ground transportation impacts.



Solid Waste

Under FAA Orders 1050.1E, Change 1 and 5050.4B, a significant adverse effect occurs when the proposed project could not be designed to meet the applicable local, state, tribal, or federal regulations on solid waste management.³¹ FAA Orders 1050.1E, Change 1 and 5050.4B require review of solid waste impacts associated with facility operations only when the quantity or type of solid waste generated or method of collection or disposal would be appreciably changed.

As discussed in Chapter 6, *Construction*, the operating characteristics of uses within the SWSA would not change the solid waste generation or method of collection or disposal at Logan Airport. The Program would generate solid waste during construction. The existing surface parking lot would be removed and the asphalt reused on-site, if possible. Construction would involve typical building materials including adhesives, sealants, paints, and solvents that may contain ingredients that appear on the Massachusetts Oil and Hazardous Materials List. These materials typically would be stored in containers of five gallons or less that would be labeled and stored in accordance with applicable federal and state regulations. Containers would be emptied of any residual materials and recycled or disposed of as solid waste at an approved off-airport facility.

The SWSA Redevelopment Program would be designed to meet the applicable local, state, tribal, and federal regulations on solid waste management. Therefore, the Program would not cause significant solid waste impacts.



Water Quality

Under FAA Orders 1050.1E, Change 1 and 5050.4B, a significant adverse effect occurs when the proposed project would not meet state water quality standards or any applicable permit requirements cannot be met.³² FAA Orders 1050.1E, Change 1 and 5050.4B require sufficient description of design, mitigation measures, and construction controls.

As discussed in Chapter 5, *Natural Resources and Drainage*, the SWSA is approximately 49 acres and is almost completely paved and has no surface water features. The SWSA consists of almost all impervious surfaces, including an open air paved parking lot and surface roadways. The existing SWSA currently does not recharge any runoff and is adjacent to the Boston Harbor on the most southeasterly corner in the vicinity of the Harborwalk.

On July 31, 2007 the EPA and DEP issued a new NPDES permit for Logan Airport's stormwater outfalls (NPDES Permit MA0000787). The new permit replaces the old NPDES Permit MA0000787, and became



³¹ FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*, March 20, 2006; FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 28, 2006.

³² FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*, March 20, 2006; FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 28, 2006.

effective on September 29, 2007. The new NPDES permit MA0000787 regulates stormwater discharges from the North, West, Northwest, Porter Street, and Maverick Street Outfalls, and all of the airfield outfalls.

Under the 2007 Existing and Future No-Build/No-Action Conditions, all stormwater runoff from the SWSA is collected at four main systems that discharge to three outfalls (Figure 5.2):

- Porter Street Outfall 003: Discharge connections are to the CSO pipe, downstream of the regulator;
- Maverick Street combined sewer (upstream of regulator). During wet weather events, these flows contribute to Maverick Street combined sewer overflow (CSO), which discharges to Boston Harbor from a separated CSO chamber at the Maverick Street Outfall 004;
- Separated storm drainage lines which discharge to Boston Harbor from the separated storm drain chamber at the Maverick Street Outfall 004; and
- Birds Island Flats/West Outfall 002: Separated storm drainage lines which discharge to Boston Harbor.

All existing flows contribute to Outfall 002, Outfall 003 or Outfall 004. Refer to Figure 5.3 for an illustration of the existing site drainage conditions.

Figure 5.5 shows the proposed drainage conditions. As discussed in Chapter 5, *Natural Resources and Drainage*, the SWSA Redevelopment Program is expected to improve the quality of runoff by upgrading stormwater management facilities site-wide, replacing uncovered vehicle surface parking with buildings, and decreasing impervious area by replacing paved areas with new pervious surfaces. The new stormwater system would reduce peak flow rates from the SWSA during significant storm events. A reduction in impervious surface areas by of six acres due to new landscaped areas along with new and upgraded stormwater facilities would be included as part of the SWSA Redevelopment Program, thus improving the overall stormwater runoff quality from the SWSA. Upgraded and centralized stormwater management facilities designed to meet and/or exceed DEP's *Stormwater Management Policy and Guidelines* over what currently exists at the SWSA would reduce the quantity and improve the quality of runoff from the SWSA.

The proposed site drainage plan is based on the following criteria:

- Elimination of site discharges to Maverick Street combined sewer upstream of the regulator, thereby contributing to the reduction in the frequency and volume of combined sewer overflows.
- Reduction of the flows contributing to the Porter Street Outfall.
- Elimination of flows contributing to the Bird Island Flats/West Outfall.
- Use of stormwater Best Management Practices (BMPs) to assist in managing runoff rates, improving water quality, and providing a practical degree of groundwater recharge.
- Modification of the Maverick Street Outfall structure and relocation of the tide gates and monitoring points to locations upstream of the Outfall.

All federal and state water quality permit requirements would be met for storm and sanitary sewers, drainage, waste treatments, and wetlands. Therefore, the SWSA Redevelopment Program would not have significant water quality impacts.

Wetlands

Under FAA Orders 1050.1E, Change 1 and 5050.4B, a significant adverse effect occurs when the proposed project would adversely affect the function of a wetland to protect municipal water supplies or sole source aquifers; would substantially alter the hydrology needed to maintain wetlands; would threaten public health, safety or welfare by substantially reducing a wetland's ability to retain floodwaters; would adversely affect wildlife habitat or fish habitat; or would be incompatible with state wetland strategies.³³ A proposed project is considered to affect wetlands (as defined by Executive Order 11990, *Protection of Wetlands*) if it involves development in a wetland; dredging, filling, draining, channelizing, diking, impounding, or otherwise directly impacting a wetlands area; disturbing the water table of an area in which a wetland lies; or indirectly affecting a wetland by impacting regions upstream or downstream or inducing secondary development.

As discussed in Chapter 5, *Natural Resources and Drainage*, the Program will be located on a site that is currently paved and impervious and includes no federal wetland resources. Construction contracts will stipulate the use of appropriate protection and mitigation measures. Stormwater management strategies would be implemented to ensure maintenance or improvement of the stormwater discharges adjacent to tidal areas. The Program would not affect any wetlands as defined in Executive Order 11990, *Protection of Wetlands*. Therefore, the SWSA Redevelopment Program would not have significant wetland impacts.

Wild and Scenic Rivers

No specific thresholds have been developed Under FAA Orders 1050.1E, Change 1 and 5050.4B. Proposed projects must be evaluated to determine whether they would impact a river inventoried by the Department of the Interior under the Wild and Scenic Rivers Act. If no inventoried river is adversely affected, no further analysis is necessary.

The SWSA Redevelopment Program would have no impact on rivers as defined by the Wild and Scenic Rivers Act as the SWSA is not adjacent to, nor would it impact, any body of water included in the Wild and Scenic River System Inventory.

Cumulative Effects

Under FAA Orders 1050.1E, Change 1 and 5050.4B, the significance threshold for cumulative impacts varies based on the impacted resource.³⁴ The past, present, and reasonably foreseeable future action's cumulative impacts must be compared to the applicable significance threshold for the resource analyzed within a defined time and geographical area.

As discussed in Chapter 1, *Proposed SWSA Redevelopment Program*, the SWSA has seen uses ranging from military support facilities, including the United States Navy and Massachusetts National Guard, to aircraft

33 FAA Order 1050.1E, Change 1, Environmental Impacts: Policies and Procedures, March 20, 2006; FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 28, 2006.
34 FAA Order 1050.1E, Change 1, Environmental Impacts: Policies and Procedures, March 20, 2006; FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 28, 2006.

maintenance and fueling. Most recently, the SWSA has been the ground transportation hub of Logan Airport. For 25 years, rental car, bus, and taxi operations, including some maintenance and fueling activities for rental cars, have occurred on-site. Portions of the SWSA have previously been the site of commercial buildings, including the U.S. Postal Service. The majority of the SWSA has been previously developed with surface parking lots and roadways for existing ground transportation operations. The SWSA currently houses the car rental facilities, the limousine and bus pools, and other transportation-related uses. Typical activities at the car rental facilities include washing, vacuuming, fueling, and light maintenance.

Massport is currently proposing the SWSA Redevelopment Program, which is expected to offer significant environmental benefits. Many of the benefits would accrue from implementing a Unified Bus System, enhanced environmental management systems, energy efficiency measures as well as pedestrian and bicycle facilities, all of which lead to reduced vehicle miles traveled, in turn, improving air quality through reduced emissions compared to the future No-Build/No-Action Conditions. In addition, the existing diesel-powered bus fleet would be replaced with a smaller number of cleaner fueled vehicles. As discussed in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, the Program has been designed and would be constructed and operated based on environmentally sustainable principles, which would lessen impact both locally and regionally during the construction phases and during long-term operation. Construction period impacts of other planned and reasonable foreseeable projects will not overlap with the Program in geographic area or construction timeframe, or are minimal. The SWSA Redevelopment Program would implement improved environmental management and provide airport edge buffers and enhanced landscaping. The SWSA Redevelopment Program would manage the intrusion of noise and light in the adjacent Jeffries Point and Gove Street Neighborhoods, and along the Harborwalk.

Development on the SWSA is not expected to cause or stimulate other development in the foreseeable future.

Construction-Related Activities

Whether or not the Program moves forward, Massport is planning to construct a bus maintenance facility in the North Service Area (NSA) that would include an administrative and maintenance building, wash building, CNG fuel operation, and some employee parking (construction to be ongoing through 2012). The facility would serve as a staging and service area for the existing Massport bus fleet. Massport is currently engaged in the design of the facility. With a site location in the NSA and a small amount of oversized construction vehicles anticipated, construction truck routes would likely be restricted to Frankfort Street and SR-2 resulting in minimal overlap with construction-related activities of the Program along SR-2.

An interim relocation of approximately 1,000 commercial structured parking spaces at the Robie Parcel (a parcel slated for future aviation activity for the long-term) has been proposed to be complete in late 2010. This relocated parking would be consistent with the DEP Logan Airport Parking Freeze. (Refer to Appendix D for further details.) With a construction completion date of late 2010, there would be minimum overlap of trucking activity between this project and the major construction period of the Program (between mid-2011 and 2013).

It is anticipated that Terminal B garage structural repairs would be ongoing during the first half of 2012, the peak year of SWSA Redevelopment Program construction activity. Because the Terminal B work is reconstruction of an active passenger terminal facility that requires minimal operational changes, the bulk of the work and associated construction truck activity, is expected to occur during the off-peak and overnight hours, while the SWSA

Redevelopment program is expected to be day shift work. Thus, minimal conflict in construction trucking activity between the two projects is anticipated. Cumulatively, the projected air emissions totaled from the Program's construction period and Terminal B garage reconstruction during 2011 would not exceed *de minimus* levels (refer to Chapter 6, *Construction*).

Also occurring during the SWSA Redevelopment's construction timeframe is Massport's planned enhancements to the runway safety areas, which are located on the airside portion of the Airport. The majority of construction material is anticipated to be delivered from the water via barge, no major conflicts in construction truck traffic are anticipated between this project and the Program.

Massport produces an Environmental Status and Planning Report (ESPR) typically every five years, and Environmental Data Reports (EDRs) in the interim years. Key sections of the ESPR/EDRs address Logan activity levels (aircraft and vehicular traffic), Logan Airport planning initiatives, regional transportation, noise abatement, air quality emissions reduction, water quality management, sustainability initiatives, and environmental mitigation tracking. These documents provide further context for the consideration of cumulative impacts at Logan Airport.

Conclusion

Consolidating rental car operations on-airport into one convenient location would advance Massport's long-established goal of reducing impacts on the community and reducing the number of re-circulating rental car shuttle buses on airport roads. The SWSA Redevelopment Program is expected to offer air quality environmental benefits in the form of common busing and cleaner fueled vehicles.

The SWSA Redevelopment Program would result in minor adverse temporary construction-related impacts, which can be reduced or avoided through construction management practices and therefore are not significant under federal standards. The SWSA Redevelopment Program would conform to the requirements of FAA Order 1050.1E, Change 1, FAA Order 5050.4B, and other relevant federal regulations, and there are no significant impacts.

FAA is the lead federal agency. FTA is a cooperating agency. Any correspondence from these federal and state agencies that have commented on the 2008 Draft EIR/EA and/or 2009 NPC is included as part of Chapter 9, Response to Comments.

Responses to Comments

Introduction

This chapter includes the Certificates of the Secretary of the Executive Office of Energy and Environmental Affairs (EEA) dated October 10, 2008 for the Draft Environmental Impact Report/Environmental Assessment (the “2008 Draft EIR/EA”) and December 23, 2009 for the Notice of Project Change (the “2009 NPC”) filed for the Southwest Service Area Redevelopment Program. The Secretary’s Certificate on the 2008 Draft EIR/EA outlined a Scope for the Final Environmental Impact Report/Environmental Assessment (Final EIR/EA) based on the previous program, which is no longer being proposed and, therefore, the Scope of the Certificate on the 2008 Draft EIR/EA is not fully applicable. The Secretary’s Certificate on the NPC outlines the amended Scope for this Final EIR/EA, which includes responding to comments received on the Draft EIR/EA as well as the NPC.

Comment Letters and Responses to Comments

Tables 9-1 and 9-2 below list the comment letters submitted on the June 2008 Draft EIR/EA and October 2009 NPC, respectively. The following sections present a copy of the Draft EIR/EA Certificate and each of the comment letters received by the MEPA Office during the public review period for the 2008 Draft EIR/EA (Table 9-1) as well as a copy of the NPC Certificate and each of the comment letters received by the MEPA Office during the public review period for the 2009 NPC (Table 9-2).

Each comment is assigned a code, which is listed in the right-hand column of Tables 9-1 and 9-2 above. This code appears in the comment and response codes, which are listed to the left and right of the letter, respectively. Listed by response code, appearing to the right of each individual comment, is a section that provides a direct narrative response to each substantive, MEPA-related comment on the SWSA Redevelopment Program 2008 Draft EIR/EA or 2009 NPC. The enumerated comments found on the left hand side of the letters correlate with the response code numbers for the relevant responses on the right-hand side.

Table 9-1
2008 Draft EIR/EA Comment Letters

Commenter	Code No.
Certificate of the Secretary of Environmental Affairs on the Draft Environmental Impact Report, October 10, 2008	C-001
United States Environmental Protection Agency – Region 1, September 25, 2008	F-001
Massachusetts Department of Environmental Protection – Northeast Regional Office, September 26, 2008	S-001
Massachusetts Department of Public Health, September 26, 2008	S-002
City of Boston Transportation Department, September 1, 2008	B-001
Jefferies Point Neighborhood Association, September 22, 2008	O-001
Gove Street Citizens Association, September 17, 2008	O-002
East Boston Community Development Corporation, September 23, 2008	O-003
East Boston PiersPAC, September 24, 2008	O-004
Board of Trustees, Porter 156 Condominium Trust, September 25, 2008	O-005
Peter L. Koff, Engel & Schultz, LLP, September 26, 2008	I-001
Allyson Gray, September 23, 2008	I-002
Stacy & Jason Alstrom, September 22, 2008	I-003
Susan Brauner, September 5, 2008	I-004
Melissa Tyler, September 26, 2008	I-005
Susan Plunkett, September 26, 2008	I-006
Jonathan Ralton, September 26, 2008	I-007
Fred Salvucci, September 26, 2008	I-008
Wig Zamore, September 29, 2008 (Late Comment)	I-009
Alamo, Avis, Budget, Dollar, Enterprise, Hertz, National, Thrifty (rental car agencies), September 23, 2008	I-010
Tom Ennis, Massport, September 24, 2008	I-011

Table 9-2
2009 NPC Comment Letters

Commenter	Code No.
Certificate of the Secretary of Environmental Affairs on the Notice of Project Change, December 23, 2009	C-002
Massachusetts Department of Public Health, November 25, 2009	S-003
Massachusetts Department of Environmental Protection – Northeast Regional Office, December 14, 2009	S-004
Massachusetts Senate, Senator Anthony Petrucci, December 15, 2009	S-005
City of Boston Transportation Department, November 19, 2009	B-002
City of Boston Environmental Department, December 18, 2009	B-003
City of Boston City Council – District One, Councilor Salvatore LaMattina, December 7, 2009	B-004
City of Chelsea City Council, December 14, 2009	B-005
Peter L. Koff, Engel & Schultz, LLP, December 11, 2009	O-006
Gove Street Citizens Association, November 19, 2009	O-007
Jeffries Point Neighborhood Association, December 12, 2009	O-008
East Boston C Community Development Corporation, December 9, 2009	O-009
Neighbors United for a Better East Boston, Inc., December 16, 2009	O-010
Friends of East Boston Greenway and Boston Natural Areas Network, December 11, 2009	O-011
Eagle Hill Civic Association, December 15, 2009	O-012
Susan Parker Brauner, November 17, 2009	I-012
Allyson Gray, November 13, 2009	I-013
Ella Arnau, December 8, 2009	I-014
Lisa Gallotto, December 6, 2009	I-015
Lena Bernabei, December 3, 2009	I-016
Fred Salvucci, December 14, 2009	I-017
Chris DiFiore, November 12, 2009	I-018
Mary Ellen Welch, December 8, 2009	I-019
Daniel Cronin, November 12, 2009	I-020
Rachel English, November 11, 2009	I-021
Audrey Lee, November 12, 2009	I-022
Laura L. Modica, November 16, 2009	I-023
Elizabeth Mazzarini, November 24, 2009	I-024
Joesph E. Steffano, Jr., NO DATE	I-025
Wig Zamore, December 14, 2009	I-026
James W. Bowen, December 16, 2009	I-027
Gail Miller, December 14, 2009	I-028
Alamo, Avis, Budget, Dollar, Enterprise, Hertz, National, Thrifty (rental car agencies), October 29, 2009	I-029
Gloribell Mota, Neighbors United for a Better East Boston, Inc., December 16, 2009 <i>[copy of Comment Letter O-010]</i>	NA

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Responses to Comments Received on the 2008 Draft EIR/EA

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Deval L. Patrick
GOVERNOR

Timothy P. Murray
LIEUTENANT
GOVERNOR

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October 10, 2008

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
DRAFT ENVIRONMENTAL IMPACT REPORT

PROJECT NAME : Southwest Service Area Redevelopment Program at
Boston-Logan International Airport
PROJECT MUNICIPALITY : Boston
PROJECT WATERSHED : Boston Harbor
EEA NUMBER : 14137
PROJECT PROPONENT : Massachusetts Port Authority
DATE NOTICED IN MONITOR : July 9, 2008

As Secretary of Energy and Environmental Affairs, I hereby determine that the Draft Environmental Impact Report (DEIR) submitted on this project **adequately and properly complies** with the Massachusetts Environmental Policy Act (G. L. c. 30, ss. 61-62I) and with its implementing regulations (301 CMR 11.00). The proponent may prepare and submit for review a Final Environmental Impact Report (FEIR). This Certificate outlines the issues pertaining to the project presented in the DEIR.

Project Description

As described in the DEIR, the proponent, the Massachusetts Port Authority (Massport), is proposing a two-phase project to redevelop the Southwest Service Area (SWSA) at Logan International Airport. The SWSA is presently occupied by the taxi pool, a bus/limousine pool, a flight kitchen and six rental car businesses. A seventh car rental agency will soon relocate to the airport with an eighth moving once the project is operational.

The total 2.7 million gross feet (gsf) project, now at five percent design, is construction of

a five-level, 50-foot +/- high garage to house car rental facilities and up to 3,000 commercial parking spaces. The project will include 270,000 square feet (sf) of space for a car rental customer service center (CSC) and maintenance and storage areas for rental car operations, which are referred to as quick turnaround areas (QTAs), which provide fueling, car washing and cleaning facilities, and vehicle storage. The DEIR also describes as part of the project a shared shuttle bus system, rather than the existing eight individual shuttles, a reconfigured taxi pool, roadway and intersection improvements, site access improvements, landscaped buffers, and new pedestrian and bicycle facilities. To accommodate the project, the taxi pool and limousine pool will be relocated (the taxi pool will be increased) to the north of Porter Street within the SWSA. The flight kitchen and bus pool will be moved to another area on the airport. Bicycle access and parking will be provided. Vehicle trips per day (VTD) will increase by about 7,570 from about 24,180 to 31,750.

MEPA Background

In its annual (EEA #3247) Environmental Status and Planning Reports (ESPRs) and Environmental Data Reports (EDRs) for the airport dating back to 1993, Massport has contemplated making the SWSA more efficient through the development of enhanced transportation facilities, including a consolidated rental car facility (the "ConRAC") and commercial parking. Data reported shows that the project should prove to have significant positive environmental impacts. However, at the same time, I have received comments which have expressed concerns with the impacts upon the existing transportation infrastructure, air quality issues, and impacts of massing upon adjacent neighborhoods. To facilitate development of an FEIR that adequately avoids, minimizes and mitigates impacts to environmental resources, I expect the proponent will continue to work closely with the state and city agencies and authorities, as well as neighbors and neighborhood organizations that have provided detailed comments on the DEIR.

C-001-001

MEPA Jurisdiction and Permitting Requirements

The project is undergoing review and subject to the preparation of a mandatory EIR pursuant to section 11.03 (6)(a)(6) and section 11.03 (6)(a)(7) of the MEPA regulations, because the project involves the generation of 3,000 or more new additional trips on roadways providing access to a single location and the construction of more than 1,000 new parking spaces at a single location. Because the proponent is an Authority of the Commonwealth, MEPA jurisdiction extends to all aspects of the project that may cause significant Damage to the Environment as defined in the MEPA regulations.

C-001-002

The project will require an Order of Conditions from the Boston Conservation Commission for work within the buffer zone to wetlands resources (if the local Order were appealed, the project would require a Superseding Order from the Department of Environmental Protection (MassDEP)). I note that as of January 12, 2007, a certification statement with

C-001-001

As discussed in the *Summary* chapter, Massport has held numerous community meetings during the review of the June 2008 Draft EIR/EA and October 2009 NPC. Massport will continue to coordinate with state agencies and local departments as well as residents and local officials through future community meetings.

C-001-002

A submission addressing DEP's comments on the June 2008 Draft EIR/EA was included as part of the October 2009 NPC (Attachment D). As discussed in Chapter 5, *Drainage and Wastewater*, minor modifications are being made to the existing outfall to provide a better system for both the Boston Water and Sewer Commission and Massport. All work to the outfall will be within the existing structure. It is understood that an Order of Conditions from the Boston Conservation Commission will be necessary for work on this project within the buffer zone.

C-001-003

MassDEP is required for new sewer connections where flows exceed 15,000 gallons per day (gpd) and are less than 50,000 gpd. Because the wastewater flow from the project is estimated to be less than 50,000 gpd, the proponent does not require a sewer extension/connection permit from MassDEP. However, the Massachusetts Water Resources Authority (MWRA) has indicated that a MWRA Sewer Use Discharge Permit will be required for wastewater discharges to the sanitary sewer system. Currently, Logan International Airport holds a USEPA-NPDES General Permit for its construction activities. For the SWSA Redevelopment Project, Massport must comply with Logan International Airport's USEPA-NPDES General Permit for Stormwater Discharges from its construction activities.

Coordinated MEPA/FAA/NEPA Review

In addition to the EIR requirement, the project is undergoing review pursuant to the Federal Aviation Administration (FAA) and the National Environmental Policy Act (NEPA) in an Environmental Assessment (EA). Both NEPA and MEPA regulations allow (and encourage) the preparation of joint EIR/EA documents. As noted at the outset of this review process, I believe coordinated review is a good government practice, both in terms of allowing for maximum public and agency understanding of the project and to ensure that review by regulatory agencies is as efficient as possible. I hereby authorize and encourage the preparation of a joint Final EIR/Final EA for the proposed project.

Review of the DEIR and Scope of FEIR

I am allowing the proponent to proceed to the preparation of an FEIR; however I note the requests by commenters for additional information and clarification to assist State agencies with future permitting processes. I have received numerous comments on the project from both project supporters and project opponents. While I appreciate the thoughtful comments submitted by all of the commenters, MEPA is not a zoning process, nor is it a permitting process. Rather, it is a process designed to ensure public participation in the state environmental permitting process, to ensure that state permitting agencies have adequate information on which to base their permit decisions and their Section 61 Findings¹ and to ensure that potential environmental impacts are avoided, minimized, and mitigated to the maximum feasible extent. The FEIR should therefore be responsive to the Scope set forth below, and as referenced above, I expect that the proponent will continue to work closely with agencies and the public on other aspects of the project outside this Scope.

I anticipate that the FEIR will respond to the scope outlined below with sufficient detail

¹ In accordance with M.G.L. c. 30, section 61, any Agency that takes Agency Action on a Project for which the Secretary required an EIR shall determine whether the Project is likely, directly or indirectly, to cause any Damage to the Environment and make a finding describing the Damage to the Environment and confirming that all feasible measures have been taken to avoid or minimize the Damage to the Environment.

C-001-003

As discussed in Chapter 6, *Construction*, Massport holds a U.S. Environmental Protection Agency National Pollutant Discharge Elimination System (NPDES) General Permit for its construction activities at Logan International Airport. The SWSA Redevelopment Program will be constructed to meet the requirements of the General Permit.

to satisfy State agencies. I retain my authority to require further review issues outlined in this Scope and in comments in the form of a Supplemental Final Environmental Impact Report if those issues are not thoroughly addressed in the FEIR. The FEIR should follow Section 11.07 of the MEPA regulations for outline and content, as modified by this Certificate.

Project Description & Regulatory Environment

C-001-004

The FEIR should include a detailed description of the project with a summary/history of the project. It should provide an existing and a proposed site plan. The FEIR should repeat the description of each state agency action required for the project that is contained in the DEIR and include any updates. It should show that the project is consistent with the applicable performance standards. The FEIR should contain sufficient information to allow the permitting agencies to understand the environmental consequences related to the project.

Response to Comments

C-001-005

In order to ensure that the issues raised by commenters are addressed, the FEIR should include a response to comments. I recommend an indexed response to comments approach, although I will defer the final choice of format to the proponent. This directive is not intended to, and shall not be construed to, enlarge the scope of the EIR beyond what has been expressly identified in the initial scoping certificate or this certificate.

Alternatives

The proponent has filed this project with MEPA early in the design process and has committed to continue public meetings to address issues such as parking and traffic circulation, building architecture, and buffer and streetscape design.

The Preferred Alternative presented in the DEIR combines a ConRAC facility and commercial parking into one five-level structure. The ConRAC is limited to the lower three levels. Commercial parking would be located on two levels above the ConRAC and would share the common shuttle bus for access to and from the Terminals. The DEIR proposes that to keep common shuttle bus traffic away from the airport property edges along the community and closer to the airport roadway network and within the SWSA to reduce community impacts. The Preferred Alternative proposes a five-level combined/consolidated garage for both activities. The combined structure increases operational efficiencies and has less visual impact to the nearby community.

In addition to the proponent's Preferred Alternative, the DEIR analyzed the no-build alternative to establish baseline conditions. The alternative would continue current and future rental car operations in SWSA with each rental car agency in a separate location with individual

C-001-004

The *Summary* chapter provides an overview of the SWSA Redevelopment Program, including descriptions of environmental consequences and a list of all anticipated permits and approvals with updates. This chapter also provides a description of the history of the Program, including the MEPA review history.

Chapter 1, *Proposed SWSA Redevelopment Program* provides a detailed description of the Program elements. Figure 1.4 shows the future build conditions.

C-001-005

Chapter 9, *Responses to Comments* provides copies of all comment letters received on the June 2008 Draft EA/EIR and the October 2009 NPC with separate responses to individual comments.

shuttle bus and customer service facilities. The DEIR also analyzed "Alternative 1" a six-level ConRAC structure on the north side of the SWSA away from Maverick Street with direct operational flow from the garage with a separate five-level commercial garage located in the eastern section of the SWSA across Jeffries Street. Under Alternative 1, the shuttle bus route exiting to Porter Street would create a poor level-of-service at the Porter Street/Harborside Drive intersection. "Alternative 2" proposed two, smaller six-level ConRAC structures with a separate five-level commercial parking structure on the eastern portion of the SWSA across Jeffries Street. Alternative 2 would circulate common bus shuttle traffic at the Maverick Street edge and results in inefficient on-site circulation

The DEIR also discussed additional alternative site locations that included relocating all rental car operations to other on-airport locations including:

- The Robie Parcel which was not adequate in size or location to accommodate the current and future rental car needs and would likely add vehicle miles traveled (VMTs) if used in connection with rental car operations.
- North Service Area which was not adequate in size or location to accommodate the current and future rental car needs and was not accessible to roadway and highway system.
- North Cargo Area which was not adequate in size or location to accommodate the current and future rental car and currently accommodates air cargo and essential airline support services such as hangars.
- Bird Island Flats/South Cargo Area which was not adequate in size or location and could interfere with primary cargo area with secured airside access

C-001-006

The FEIR should continue to provide updated information on transportation and buffer streetscape design to the surrounding neighborhood in relation to the Preferred Alternative.

Traffic/ Vehicular Transportation

The DEIR was prepared in conformance with the EOE/EOTC Guidelines for EIR/EIS Traffic Impact Assessment. It analyzed traffic impacts by determining the Level-of-Service (LOS) at the intersections required in the ENF Certificate and the Boston Transportation Department (BTD) comment letter. The DEIR identified the potential Transportation Demand Management (TDM) measures that the proponent will commit to implementing.

Vehicle trips per day (VTD) will increase by about 7,570 from about 24,180 to 31,750 attributed the increase to the projected growth in air passengers. The DEIR analyzed how the proposed common shuttle bus system will improve customer service, reduce curbside traffic congestion, and reduce vehicle-miles-traveled (VMT). Specifically, VMTs for rental car shuttles are projected to be reduced by approximately 50 percent with a common shuttle bus system compared to running separate shuttles for seven rental car companies and the commercial parking. This equates to a savings of approximately 2,470 miles daily and over 215,000 gallons

C-001-006

Chapter 1, *Proposed SWSA Redevelopment Program* presents design options being considered for the buffer and streetscape design. Massport will continue their outreach efforts to local and state government agencies, community groups, and abutters during the development of the design to make sure updated information is provided to those groups and other interested parties.

per year of fuel (bus fuel efficiency of 4 miles per gallon). Analysis in the DEIR shows that without the SWSA Redevelopment Program and associated ground access improvements, the projected growth for most of the major current uses in the SWSA (rental cars, taxis, limousines) would lead to an overload of the surrounding airport roadway and traffic congestion during 2012 and 2017 No-Build/No-Action Conditions. Also, with the relocation of the Bus and Limousine Pools and shuttle bus consolidation into a common bus system, the projected Build traffic volumes entering and leaving the SWSA would be between six and ten percent less than the traffic volumes associated with 2012 and 2017 No-Build/No-Action Conditions. Proposed ramp, roadway and intersection improvements will result in peak hour traffic volumes and daily VMTs that are better than 2012 and 2017 No-Build/No-Action Conditions. The DEIR states that existing designated, overflow and economy commercial parking will be consolidated within the SWSA while remaining within the requirements of Logan Airport Parking Freeze. This action will not therefore increase traffic to and from the airport, but will consolidate this parking-related traffic in one location.

The DEIR predicts the number of air passengers using Logan Airport will grow at a rate of 2.3 percent per year and assumes that the percentage of taxi, rental car, and limousine traffic entering and exiting the SWSA will increase accordingly. Under the SWSA-Build condition, trip generation will increase from 26,080 - 30,680 AWDT in 2012 and 28,905 - 33,985 AWDT in 2017. The DEIR estimates the proposed project achieves an overall trip volume reduction of 6 to 10 percent of traffic entering and exiting the SWSA site. However the relocation of the bus and limousine pool will increase vehicle trips to the North Service Area (NSA). In the FEIR, the project proponent should take into account the shift in trips from the SWSA to the NSA. The FEIR also should indicate how Logan Airport air passenger and ground service peak activity periods, such as Sunday afternoon and evening arrival periods are accounted for in the traffic analysis. Also Massport has committed to comply with the Massachusetts Idling regulation (310 CMR 7.11). The proponent should post idling restriction signs in all loading and drop-off areas within the site to remind all drivers, patrons, and delivery personnel of the state's idling regulation.

The FEIR should use the study methodology contained in the detailed BTM comment letter to govern the remaining traffic analysis and issues that are still outstanding. The FEIR should continue to working with BTM, EOT and the community to identify further mitigation measures for areas where the project will have a significant impact on traffic operations. The FEIR should include clear commitments to implement the mitigation, and describe the timing and any phasing of the mitigation.

Pedestrian/Bicycle

The DEIR described design standards for plantings, street furniture, signage, and sidewalk and crosswalk widths and paving to ensure that the pedestrian environment generally is appealing and efficient. The FEIR should continue to discuss methods of improving pedestrian

C-001-007

As presented in the October 2009 NPC, the SWSA Redevelopment Program has been revised, which includes a change to the relocation of the Bus/Limousine Pool. As discussed in Chapter 3, *Surface Transportation*, the VMT analysis presented herein accounts for the permanent shift of the Flight Kitchen to the North Service Area (NSA) or off-airport. The traffic impacts and proposed mitigation related to the temporary relocation of the Bus and Limousine Pool to the NSA are discussed in Chapter 6, *Construction*.

C-001-008

While some forms of travel to Logan Airport may have a Sunday peak, such as drop-off or pick-up traffic, Chapter 3, *Surface Transportation* presents information that illustrates that overall airport and rental car traffic volumes on Sundays are significantly lower than on Thursdays. The data shows that Thursdays are the busiest days of the week for traffic associated with the car rentals. The data also show that August is the busiest month for car rentals, which is the largest traffic generator among the project elements. To provide a conservative analysis assessing above-average conditions, the Draft EIR/EA and Final EIR/EA traffic analyses were based conditions typical for a Thursday in August.

C-001-009

As presented in Chapter 4, *Air Quality and Noise*, Massport will post idling restriction signs in all loading and drop-off areas within the SWSA to remind all drivers, patrons and delivery personnel of the state's idling regulation.

C-001-010

Chapter 6, *Construction* presents additional information and analysis regarding the temporary relocation of the Bus/Limousine Pool to the

- C-001-012** safety and facilities, and limiting pedestrian-vehicular conflicts. Within the DEIR Massport has committed to improving pedestrian and bicycle connections to the SWSA, the community, and the airport. I expect the proponent to continue to work closely with the City of Boston and other local neighborhood groups, agencies and landowners to coordinate streetscape design and the Airport Buffer Program described in the DEIR. The FEIR should describe with more detail the plans to ensure that these areas especially are designed as pedestrian corridors and attractive urban open spaces.

Parking

- C-001-015** The proposed project is a two-phased (2012 Phase 1 and 2017 Phase 2) redevelopment of the Southwest Service Area (SWSA). MassDEP has stated in its comment letter that while rental car storage spaces are not regulated under the Parking Freeze, the provisions of the Parking Freeze allow Massport to manage its parking space inventory on Logan Airport property as operational needs require so long as Massport does not exceed the inventory limiting number of 17,319 commercial and 3,373 employee parking spaces. The FEIR must address the specific comments that have raised questions related to the Parking Freeze and detail how each phase of the project will comply with the mandates of the Parking Freeze.

- C-001-016** The FEIR should provide additional information relative to the fuel use and emissions reductions expected from the common shuttle bus operation. Consistent with the requirements of the Parking Freeze, the FEIR should provide information on Massport's plans and efforts to relocate any remaining East Boston based rental car facilities or operations that serve Logan Airport and are not part of the proposed consolidation onto Logan Airport.

Air Quality

The DEIR contains an air quality assessment with a microscale analysis of localized carbon monoxide (CO) and particulate matter (PM_{2.5} and PM₁₀) conditions, a mesoscale analysis of volatile organic compounds (VOCs) and nitrogen oxides (NO_x) emissions in the project study area, and a greenhouse gas analysis to quantify carbon dioxide (CO₂) emissions. The greenhouse gas analysis, as described in detail in the next section of the Certificate, compared the direct and indirect emissions from the combined stationary and transportation sources under the respective 2007 existing condition and respective Build and No Build conditions for 2012 and 2017.

- C-001-018** As stated in its comment letter, MassDEP approved the modeling parameters used in the microscale and mesoscale analyses and accepts the modeling assumptions of the greenhouse gas analysis and accuracy of the analyses' results. Several commenters have raised concerns about the methodology used which MassDEP has approved. The FEIR should clarify the issues raised by those letters and further detail and justify the approved modeling parameters and analyses. This additional discussion should include, but not be limited to, further description of how the

North Service Area and compatibility with planned transportation initiatives.

C-001-011

Chapter 7, *Beneficial Measures/Proposed Section 61 Findings* provides a comprehensive description of the beneficial measures proposed as part of the SWSA Redevelopment Program, including the anticipated timing and/or phasing of those measures.

C-001-012

Pedestrian/bicycle amenities and safety improvements are discussed in Chapter 1, *Proposed SWSA Redevelopment Program*.

C-001-013

Updated information on and graphics of design options, including streetscape design and landscaping being considered by Massport, are included as part of Chapter 1, *Proposed SWSA Redevelopment Program*. Massport will continue its outreach efforts to local and state government agencies, community groups and abutters during the development of the design.

C-001-014

Chapter 1, *Proposed SWSA Redevelopment Program* provides additional information on the current design of proposed pedestrian corridors and open spaces.

C-001-015

As presented in the October 2009 NPC, the SWSA Redevelopment Program has been revised with the removal of the commercial parking component (3,000 parking spaces on Levels 4 and 5 of the previously

C-001-018 approved methodology accounts for the impact of cold starts and the extent to which the impacts of ultrafine particulates have been analyzed.

C-001-019 The microscale analysis within the DEIR applied atmospheric dispersion modeling for CO and PM2.5 and PM10 and “hotspot” modeling for roadway/intersections. The atmospheric dispersion modeling was conducted using the US Environmental Protection Agency’s (EPA) AERMOD, Massachusetts-specific MOBILE 6.2 motor vehicle emission factors and meteorological data collected at Logan Airport. The CO “hot-spot” modeling was conducted using the EPA CAL3QHC model combined with Massachusetts-specific MOBILE 6.2 motor vehicle emission factors. I note the comments of EPA seeking clarification with respect to the analysis of CO emissions. Subsequent to the close of the public comment period, the proponent supplied additional information with respect to CO emissions. This additional information and any updates should be included in the FEIR.

The DEIR’s mesoscale analysis predicted VOC and NOx emissions using the current US EPA emission model (MOBILE 6.2), and traffic flow conditions for the respective 2007 existing condition, and respective Build and No Build conditions for 2012 and 2017. The mesoscale analysis also was used to estimate the indirect emissions from transportation CO2 emissions associated with the additional project related vehicle trips. The calculation compared CO2 emissions for the respective 2007 existing condition, and respective Build and No Build conditions for 2012 and 2017.

The results of the atmospheric dispersion modeling and hotspot modeling indicate that the proposed project concentrations are well below NAAQS for CO and PM10/2.5. The mesoscale analysis indicates the proposed project is expected to reduce NOx emissions by 23.1 and 6.33 tons/year in 2012 and 2017, respectively, when compared to Future No-Build Conditions. The proposed project also is expected to result in reductions of up to three percent in VOC emissions when compared to the 2012 and 2017 No-Build Conditions.

C-001-020 The transportation related air quality benefits associated with the proposed project are largely derived from the reduction of vehicle trips, roadway improvements, and the proposed TDM measures. The FEIR should explore additional TDM measures which may yield further air quality benefits.

Greenhouse Gases

As outlined in the Certificate on the ENF, in accordance with the EEA Greenhouse Gas Emissions (GHG) Policy and Protocol, the DEIR was required to quantify GHG emissions generated by the proposed project and describe all GHG mitigation measures associated with the project. In the DEIR CO2 emissions associated with the SWSA Build Conditions are reported as 11,927 metric tons of CO2 /year by 2012, and 12,836 metric tons of CO2 /year by 2017. These values represent a 17 percent and 15 percent decrease in SWSA-related CO2 emissions when

proposed Garage Structure) resulting in a substantial reduction in size of the Garage Structure (by about 50 percent).

C-001-016

The emission reductions from the Unified Bus System are presented in Chapter 4, *Air Quality and Noise*. These emission reductions are a direct result of the reduction of vehicle trips through the consolidation of the rental car shuttle buses and corresponding reduction in the usage of and change in type of fuel associated with the buses; the retirement of older, more polluting vehicles.

C-001-017

As discussed in the *Summary* chapter, in the fall of 2008 Massport relocated one of the off-airport rental companies to the SWSA. As mentioned in the June 2008 Draft EIR/EA, this arrangement is independent of the proposed program and, therefore, is considered part of the existing conditions. The one remaining rental car company (Thrifty) that operates off-airport will relocate to the SWSA with the proposed ConRAC facility.

As discussed in Chapter 3, *Surface Transportation*, all rental car customer service functions will be relocated to the new ConRAC facility so individual shuttle buses will no longer need to travel to the existing off-airport rental car company locations to pick up customers; therefore, reducing vehicle trips within the overall traffic study area under future Build Conditions compared to the future No-Build/No-Action Conditions.

The existing off-airport rental car properties are privately owned and Massport does not control the future use of those properties. The rental car companies have reported that they expect to retain these properties off-airport to be used for rental car fleet storage and heavy/long-term maintenance, as needed.

compared to the corresponding 2012 and 2017 No-Build Conditions, respectively.

C-001-021

As noted by MassDEP, although the DEIR quantified CO₂ emissions from mobile sources under the Preferred Alternative (as compared to the No-Build conditions) and presented measures to avoid, minimize and mitigate project-related GHG emissions, it did not include a modeling analysis of the energy use and CO₂ emissions from the project's direct and indirect stationary sources which should be included in the FEIR. The DEIR represented that CO₂ emissions would be reduced under the Preferred Alternative as the Preferred Alternative incorporates a number of sustainable design measures beyond a code-compliant building. However, the impact of those measures needs to be quantified in the FEIR.

C-001-022

As recommend by MassDEP and DOER, the energy modeling for stationary sources in the FEIR should reflect all of the specific mitigation measures selected for the building design, including the following:

- Interior natural daylighting through clearstory windows and/or skylights;
- High-efficiency lighting and lighting system controls, including motion sensors; The FEIR needs to identify specifically the lighting that will be used and reflect it in the energy modeling.
- Efficient, directed exterior lighting;
- High-albedo roofing materials;
- Energy-efficient mechanical systems and high-efficiency HVAC systems; The FEIR needs to specify the systems that will be used and reflect it in the energy modeling.
- Architectural elements on the façade that accommodate natural ventilation;
- Window glazing; and
- Independent building control systems.

C-001-023

The DEIR states that the project will strive to meet the Mass LEED Plus program. The Mass LEED Plus standard established by the Sustainable Design Roundtable calls for energy performance in buildings greater than 20,000 sq ft, "to exceed MA Energy Code requirements by at least 20 percent." Meeting this standard would be in keeping with the MEPA GHG Policy which states that the project baseline for energy usage should be based on code-compliant buildings. Therefore, energy mitigation measures for the project must extend beyond meeting the MA State Building Code. However, the FEIR also needs to clarify the standard the project intends to meet. According to the Department of Energy Resources (DOER) the MA LEED plus requirement of 20 percent energy cost savings or as 20 percent energy efficiency over the baseline is not the same as the MA LEED Plus standard issued by the Sustainable Design Roundtable.

C-001-024

As the project design advances, I strongly encourage the proponent to consider the feasibility of incorporating additional measures to reduce GHG emissions. In particular, the DEIR mentions that the proponent is investigating rooftop photovoltaic (PV) systems for the Customer Service Center and micro-wind on the parking structure. In addition, the proponent

C-001-018

Two issues were raised associated with the technical methodology for the air quality analysis for which additional clarification was requested, including: (i) motor vehicle engine "cold-start" emission factors; and (ii) the modeling of ultra-fine particulate matter. Refer to Chapter 4, *Air Quality and Noise* herein for supplemental information related to these two issues.

C-001-019

Chapter 4, *Air Quality and Noise* provides additional information pertaining to CO emissions specifically related to compliance with the federal Clear Air Act (CAA) General Conformity Rule. This information demonstrates that the program-related operational and construction emissions are well below the General Conformity *de-minimis* threshold of 100 tons per year for this pollutant.

C-001-020

Details regarding the proposed Transportation Demand Management measures are provided in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*.

C-001-021

Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment* estimates the potential CO₂ emissions (from mobile and stationary sources) to result from the proposed program. When compared to the Baseline Condition (minimum requirements of the current Massachusetts Building Energy Code) the SWSA Redevelopment Program (or Preferred Alternative) is projected to result in a decrease in GHG emissions due to the proposed improvements.

C-001-022

Chapter 2, *Sustainable Design and Greenhouse Gas Emissions*

has indicated an interest in evaluating the use of PV systems on the parking structure as well. New installation technologies allow for PV units to be arrayed above parking spaces, maximizing utilization of space and solar exposure as well as additional shading of the building below. The proponent should work with the Executive Office of Energy & Environmental Affairs and DOER to assess the feasibility of these measures at the ConRAC parking facility. The proponent's analysis of the feasibility of these measures should take into consideration the likely continued rise in the electricity prices, the continued reduction in the cost of PV, opportunities for third party PV arrays with power purchase agreements, new opportunities for utility ownership of solar installations, and the new requirements and standards in the Green Communities Act, Chapter 169 of the Acts of 2008.

C-001-025

C-001-026

C-001-027

Finally, the proponent should consider the additional energy use required to provide water and wastewater treatment for the project when evaluating the overall GHG reductions that can be obtained through mitigation efforts. The FEIR should include an update on any additional measures incorporated to the project that will help reduce project-related GHG emissions. I encourage the proponent to consult with the MEPA Office concerning the additional analysis required by this section.

Sustainable Design

A development the size of the proposed project presents a host of opportunities for incorporating sustainable design elements and sustainable construction into project design, consistent with the goals of Executive Order 484 and Executive Order 385. Sustainable design elements, over the course of the project design life, can both prevent environmental impacts and reduce operating costs to the proponent. The DEIR states that the site design will:

- Follow sustainable principles/LEED criteria for siting/sustainable sites (e.g., walking distance to public transportation).
- Complete the Phase 2 SWSA Landscape Edge Buffer;
- Enhance pedestrian and bicycle path connections for the community to airport facilities and public amenities such as Memorial Park and the Airport T-Station;
- Locate the garage and support structures to shield the adjacent neighborhoods from airport roadways and aircraft noise;
- Commit to incorporate principles of sustainable design in all aspects of design, construction, and operations; and
- Strive to achieve a LEED Silver level rating and the goals of the MA LEED Plus program.

C-001-028

I remind the proponent that stormwater regulations require that consideration be given to low impact development (LID) and the use of integrated management practices (IMP) for control of stormwater, either alone or in combination with conventional drainage control measures. LID is an approach to stormwater management that minimizes runoff impacts by maintaining and mimicking existing hydrologic functions through site design techniques such as disconnecting

Assessment describes and quantifies proposed program improvements aimed at reducing Greenhouse Gas (GHG) emissions (CO₂), in accordance with the *MEPA Greenhouse Gas Policy and Protocol*. As demonstrated by the assessment, the Program would reduce mobile source CO₂ emissions by 39 and 36 percent (for the Unified Bus System Diesel Hybrid Option and Unified Bus System CNG Option, respectively) and stationary source CO₂ emissions by at least 20 percent under the 2018 Build Condition when compared to the 2018 No-Build/No-Action Condition.

C-001-023

As stated in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, the proposed program will be designed and constructed to be at least 20 percent more energy efficient over the current MA Building Energy Code minimum requirements as a baseline, in compliance with the MA LEED Plus requirement. This will result in an approximately 20 percent reduction in CO₂ emissions.

C-001-024

As presented in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, the proposed program will be designed and constructed to be 20 percent more energy efficient over the current MA Building Energy Code minimum requirements (as the Baseline Condition) and in compliance with the MA LEED Plus requirement. This will result in an approximately 20 percent reduction in CO₂ emissions.

Also required under MA LEED Plus is "basic" certification under the LEED-New Construction & Major Renovation certification (version 2.2), which represents a minimum of 26 points. As part of Energy & Atmosphere (EA) credit 1 (Optimize Energy Performance), energy efficiency is accounted for as energy cost savings and as of June 2007 a minimum of 2 points out of 10 points total, or 14% efficiency, are required under EA credit 1. Therefore, in order to comply with MA LEED

- C-001-028** runoff flow pathways and dispersing stormwater control across the site, reducing imperviousness, and minimizing clearing and grading while preserving natural resources and drainage patterns. When combined with pollution prevention measures, LID can be less costly than conventional gutter and pipe drainage system and can provide redundancy for stormwater control.

Drainage/Stormwater

The existing stormwater system for the project consists of catch basins and underground piping that flow to Maverick Street and Porter Street Outfalls. The DEIR states that the project is expected to improve the quality of runoff by upgrading stormwater management facilities site-wide, replacing uncovered vehicle surface parking with buildings and decreasing paved area. The DEIR states that the project will reduce almost three acres of impervious surface area due to new landscape buffer area, along with new and upgraded stormwater facilities would be included as part of the SWSA Redevelopment Program, thus improving the overall stormwater runoff quality from the site. Under Existing Conditions, portions of the SWSA discharge stormwater to the BWSC Porter Street Outfall. The proposed new stormwater system will reduce combined sewer overflow (CSO) discharge volumes and all stormwater will be conveyed to the existing Maverick Street Outfall, which has sufficient capacity for anticipated flow. I note that the NPDES permit (No. 0000787) was issued jointly by USEPA and MassDEP. Therefore, MassDEP's review of the proposed stormwater drainage system for compliance with the stormwater management standards extends to the entire 49 acres of the Southwest Service Area.

- C-001-029** The stormwater drainage from the proposed Southwest Service Area is being directed to the Maverick Street outfall, where it may be necessary to attenuate drainage rates sufficiently to avoid CSO overflows, unless a credible and conservative stormwater analysis demonstrates that peak runoff rate controls are unnecessary. In this application, the Rational Method, as described in MassDEP's comment letter, is not appropriate to estimate potential flow attenuation to the CSO outfall. In order to properly evaluate the likelihood of unanticipated CSO occurrences, the FEIR must evaluate the runoff rate using TR20/TR55 method described in MassDEP's comment letter as well as the flow model required to be developed by the NPDES permit for Outfalls 001, 002, and 004.

- C-001-030** The MassDEP Stormwater Standard 3 in conjunction with Stormwater Standard 7 requires recharge to be provided to the maximum extent practicable. Given the DEIR indicates the tidally influenced high groundwater is about 6 to 8 below grade, it would appear to be practicable to induce groundwater recharge. Although the DEIR mentions drywells are being investigated, a greater commitment to provide stormwater recharge must be made in the FEIR.
- C-001-031** In addition, the stormwater management system needs to be designed to treat one inch of runoff multiplied by the impervious area because the project site is a land uses with higher potential pollutant loads (LUHPPL), and stormwater will be discharged to a critical area.

- C-001-032** The criteria for compliance with Standard 7 for redevelopment projects are more detailed

Plus, the proposed Redevelopment Program will have to account for both optimal energy efficiency compared to the MA Building Code and well as energy cost savings.

C-001-025

Since the June 2008 Draft EA/EIR, Massport has continued to work with the Executive Office of Energy and Environmental Affairs/MEPA Office on feasible Greenhouse Gas emissions reduction measures as well as the Department of Energy Resources and MassTech Collaborative on renewable energy options. Massport will continue to coordinate throughout the Final EA/EIR public review period and through final design.

As presented in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, Massport has committed to a minimum 2.5 percent of on-site renewable energy (e.g., solar/wind).

C-001-026

Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment* provides a discussion of potential on-site renewable energy sources and technologies that have been considered and evaluated thus far and will continue to be evaluated by the project design team through final design. At this point in conceptual design, Massport is committing to a minimum of 2.5 percent of on-site renewable energy for the overall electricity consumption.

C-001-027

Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment* includes the projected Greenhouse Gas (GHG) emissions reductions from proposed water conservation and wastewater reduction performance criteria (including low-flow plumbing fixtures and car wash

C-001-032

under the stormwater regulations than the Stormwater Management Policy. The Stormwater Management Handbooks require submittal of a complete set of computations to demonstrate that the structural best management practices (BMPs) meet standards 2 through 6, in addition to demonstrating that existing conditions have been improved. Because of the requirements for calculations, it cannot be affirmed that the stormwater management system design described in the DEIR is in conformance with the redevelopment standard. This information must be provided in the FEIR.

Wastewater

The DEIR included estimates of project water use and wastewater generation, and it demonstrated that adequate infrastructure exists or will exist to support the water supply and wastewater demands. The DEIR also described the infrastructure improvements necessary to accommodate projected wastewater flows.

The SWSA currently receives potable water from the City of Boston Water and Sewer Commission (BWSC) which obtains water from the Massachusetts Water Resources Authority (MWRA) system. The MWRA handles the wastewater generated from the SWSA, which is ultimately treated at the Deer Island Sewage Treatment Plant in Boston Harbor. The SWSA Redevelopment Program would require 108,300 gallons per day (gpd) of potable water and would generate 89,553 gpd of wastewater (based on DEP Title 5 guidelines). There will be a small increase in water usage and wastewater generation under the 2012 and 2017 Build Conditions due to the increase in vehicles and passengers accessing the consolidated rental car and commercial parking garage. In accordance with the goals of the MA LEED Plus program, the DEIR states that the project will reduce water use demand through the utilization of high-efficient, low flow plumbing fixtures, car wash water reclamation systems, and water efficient landscaping (e.g., use of low-water demand vegetation and native plantings). In addition, the design of the new sanitary and stormwater drainage systems would result in an overall reduction in combined sewer overflow volumes from the Porter Street Outfall and Maverick Street Outfall Drainage Areas.

MWRA is currently completing final design of the federally court ordered East Boston Branch Sewer Relief project intended to bring CSO discharges along the East Boston shoreline into compliance with the federal Clean Water Act and state water quality standards. Any increase in flow to the East Boston system may contribute to greater surcharging and overflows during wet weather. MassDEP, in cooperation with MWRA and its member communities (including Boston), are implementing a flow control program in the MWRA regional wastewater system, to remove extraneous clean water (e.g., infiltration/ inflow (I/I)) from the system.

Pursuant to 360 C.M.R. 10.023(1), the MWRA prohibits the discharge of groundwater to the sanitary sewer system, except in a combined sewer area when permitted by the Authority and the municipality. The proposed construction site of the SWSA Redevelopment Project at Logan

water recycling) as well as other measures that are anticipated to result in some reduction of GHG emissions.

C-001-028

As discussed in Chapter 5, *Drainage and Wastewater*, Low Impact Development and Integrated Management practices will be applied during final design, where applicable and feasible, in order to control and/or treat stormwater runoff.

C-001-029

Please refer to Attachment 1, *Responses to the DEP letter to MEPA on the 2008 Draft EIR/EA* of Attachment D of the 2009 NPC for a detailed response to this comment.

C-001-030

Please refer to Chapter 5, *Drainage and Wastewater* for a discussion on the proposed stormwater management plan, including stormwater recharge.

C-001-031

Please refer to Chapter 5, *Drainage and Wastewater*.

C-001-032

Chapter 5, *Drainage and Wastewater* demonstrates the Program's compliance with DEP stormwater management Standards 2 through 6 (also provided as Attachment D of the 2009 NPC). Chapter 5 also demonstrates that the existing conditions will be improved prior to enacting Standard 7 for redevelopment.

International Airport has access to storm drains and it is not located in a combined sewer area; therefore, the discharge of groundwater to the sanitary sewer system associated with this project is prohibited. Currently, Logan International Airport holds a USEPA-NPDES General Permit for its construction activities. For the SWSA Redevelopment Project, I reiterate as stated in the ENF certificate that Massport must comply with Logan International Airport's USEPA-NPDES General Permit for Storm Water Discharges from its construction activities.

C-001-033

Water Conservation

Although the main sources of GHG from this project are associated with building heating and cooling, lighting, and vehicle travel, the energy required to provide potable water and treat wastewater also will be a source of GHG, and in particular CO₂. The DEIR states that Massport's goal is to reduce water use by about 20 percent and landscape irrigation by 50 percent. The DEIR also indicates that for compliance with MA LEED Plus criteria, water use demand will be reduced by installing high-efficiency low flow plumbing fixtures, car wash water reclamation systems, and water efficient landscaping. As noted above, the DEIR also should quantify the effect of the low-flow fixtures and equipment that will be installed to reduce water demand. To achieve water and energy savings goals, consideration also should be given to using HVAC equipment with advanced evaporator coils, which have been reported to reduce water loss by about 50 percent and energy demand by up to 25 percent. Other mitigation measures appropriate for reducing energy use for water and wastewater are water distribution system improvements to eliminate un-accounted for water losses and infiltration and inflow (I/I) removal from sewer mains, which also is required to offset wastewater generated by the project which has the potential to increase sewer and combined sewer overflows.

C-001-034

C-001-035

C-001-036

Wetlands

The majority of the 49-acre site is not within a wetlands resource area or buffer zone. Wetlands jurisdiction extends to a small section of Harborside Drive within a buffer zone to wetlands, for which a Notice of Intent (NOI) is required to be filed. It also appears that the replacement of tidegates and stone dissipators at the outfall would entail work within coastal bank and land under water. A plan (C-2) in Appendix G (Sheet 2 of 3) shows replacement of tidegates at and/or near the Maverick Street outfall, which should be explained in the DEIR, because there is no mention of this work in the DEIR.

C-001-037

Noise

The DEIR contained an assessment of project-related noise impacts on appropriately sited nearby residential receptors. By consolidating and improving the efficiency of existing rental car operations, the DEIR states that the project will help to reduce overall future noise levels in adjacent neighborhoods. The project would result in the relocation of several existing noise sources away from the adjoining neighborhoods. The relocation of existing Bus and Limousine

C-001-033

Refer to the response to Comment C-001-003 above.

C-001-034

See response to Comment C-001-027 above.

C-001-035

Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, provides further details on the proposed HVAC system options for the proposed program. Proposed water and energy savings measures are also discussed in Chapter 2.

The suggested use of efficient "advanced evaporator coils" is assumed to refer to the application of a low water usage cooling towers. In this case, this technology would not apply to the Program because the system being considered uses an air cooled chiller that does not utilize a cooling tower. Consideration was given to utilizing a system that uses a cooling tower; however, it was not selected for the following reasons:

- 1) the air cooled system uses zero water vs. a cooling tower which consumes water;
- 2) the cooling tower requires that chemicals be introduced into the water to prevent corrosion and there are concerns that drift from the cooling tower plume would settle on nearby cars and other nearby surfaces; and
- 3) for these buildings, the air cooled system is a more cost effective approach when balancing first cost versus operating costs.

C-001-036

As discussed in Chapter 5, *Drainage and Wastewater*, upgrades to the SWSA drainage system includes the elimination of discharges to the Maverick Street combined sewer upstream of the regulator, thereby contributing to the reduction in frequency and volume of combined sewer overflow events.

Pools to the North Service Area would eliminate the current use of buses on Tomahawk Drive/Hotel Drive Extension and Jeffries Street. The number of shuttle buses serving the facility would be reduced because individual buses for each rental car company would be consolidated into a common shuttle system. In addition, shuttle bus traffic would be relocated farther from the airport property edge and the community in a shielded location on the opposite side of the parking structure and improved traffic-flow patterns for the shuttle buses would reduce or eliminate occurrences of shuttle bus back-up alarms.

Wind Impacts

The DEIR contained an analysis of pedestrian level wind impacts as it relates to air quality impacts associated with the project. The DEIR concludes that the results of a wind analysis demonstrate that the proposed SWSA Redevelopment Program (including the ConRAC facility and associated parking structure) is not expected to have any significant effect on pedestrian-level winds near the project or in the adjoining neighborhoods. The only predicted exception to this is near the corners of the garage structure and only under high wind conditions where planned landscaping in these areas will help minimize these potential effects. The FEIR should provide where available more details to the planned landscaping that will minimize wind conditions.

Visual Impacts

The DEIR contained an analysis of the visual impacts of the proposed project, including elements as viewed from nearby residential areas. The visual impacts are being reviewed by the City of Boston for building design. The FEIR should contain any updates of the visual analysis that occur.

Massachusetts Contingency Plan (MCP)/M.G.L. Chapter 21E

The DEIR contained an update on the status of the clean up efforts on the Release Tracking Numbers (RTN) areas for the site and the additional investigations in accordance with the Massachusetts Contingency Plan (MCP). I note that this project site is being regulated under MGL c. 21E (3-1611). Activities within the SWSA, particularly storage and transfer of petroleum products, have resulted in releases to the subsurface. Releases of Oil and Hazardous Material (OHM) by tenants were reported to MassDEP. According to the DEIR all but one of the RTNs have been closed out, with three resulting in the filing of an Activity and Use Limitation (AUL). The other RTN was assigned in August 2007 and the area is still under investigation. The three AUL areas will require that a soil management plan be developed by a Licensed Site Professional (LSP) and submitted to MassDEP prior to construction within those areas. The DEIR states that decommissioning of the existing rental car facilities will include the removal of older fueling systems and associated tanks (in accordance with applicable public safety regulations), which will be replaced with new state-of-the-art systems. The project will also

The SWSA Redevelopment Program includes the removal of all existing water mains, valves and hydrants within the SWSA. All new water and sewer mains, valves and hydrants will be installed. All new sewer lines and manholes are also proposed. Therefore, any existing water losses due to the water and/or sewer systems will be eliminated by the installation of new systems. Additionally, within the buildings low-flow plumbing fixtures will be installed where appropriate as a water conservation and wastewater reduction measure. Also, RAC car washing facilities will utilize systems that capture, treat and recycle the water used, thus substantially reducing wastewater associated with RAC operations.

C-001-037

The figures in Attachment 2, *Work Within the Maverick Street Outfall* of Attachment D of the October 2009 NPC show the Massport as-built plans from 1987 and 1997 from work previously completed. These figures do not show the proposed work at the Outfall.

C-001-038

According to the pedestrian wind analysis provided in Chapter 5, *Air Quality* of the 2008 Draft EA/EIR, high winds were estimated to be evident near the corners of the Garage Structure, which is not representative of a pedestrian environment. Chapter 4, *Air Quality and Noise* discusses the proposed site landscaping treatments, including berms, solid fences/walls and plantings such as shrubs and trees are expected to create a comfortable pedestrian environment at the edges of and within the SWSA.

C-001-039

Updates to the visual analysis are provided in Chapter 1, *Proposed SWSA Redevelopment Program*.

include the remediation of subsurface contamination encountered during tank removals or other excavation activities. The DEIR also projects that replacing open surface parking areas with a parking structure would reduce the runoff from parking lots and its incidental hydrocarbon loading. The FEIR should contain any updates on the status of the clean up efforts on the RTN areas for the site.

C-001-040

Recycling Issues

The project includes demolition and reconstruction, which will generate a significant amount of construction and demolition (C&D) waste. By incorporating recycling and source reduction into the design, the proponents would have the opportunity to join a national movement toward sustainable design. The project proponent should be aware there are several organizations that provide additional information and technical assistance, including WasteCap, the Chelsea Center for Recycling and Economic Development, and MassRecycle.

MassDEP commends the proponent in its comment letter for recognizing the importance of materials management within its DEIR filing for the Southwest Service Area redevelopment project. In order to address GHG emissions related to materials management in the FEIR, the FEIR should quantify the GHG impacts of materials management for the project development and projected future operation. By quantifying these impacts, the applicant's GHG mitigation efforts related to materials management can be more clearly identified and targeted appropriately. The FEIR should contain quantification to help guide changes in the project, which provide a comprehensive approach to materials management throughout the design, construction, and operational phases of the project.

C-001-041

C-001-042

Construction Period

The DEIR evaluated construction period impacts, with an emphasis on erosion and sedimentation, evaluation of the existing stormwater system and traffic impacts on adjacent roadways, air quality and solid waste disposal. The DEIR commits to a construction phasing plan that proposes to minimize disruptions in the project area and for the entire airport. Specifically, foundation work, such as pile driving, will be arranged for minimal impact and only occur for a relatively short period of time. Piles will be pre-augured through the upper 60 feet or more of soils, reducing the number of hammer blows required to seat the piles, therefore reducing the noise impact on the community. In order to reduce potential impacts from construction activities, Massport will implement a Construction Management Plan that will include:

- An Erosion and Sedimentation Control Program to minimize construction phase impacts to the nearby water resources.
- A requirement that construction contractors install emission control devices on certain equipment types in order to reduce impacts to air quality.
- Noise attenuation measures such as temporary noise barriers, re-routing traffic and/or

C-001-040

As presented in the 2009 NPC, the remedial investigation at Release Tracking Number 3-27068 achieved a Class B-1 Response Action Outcome, meaning that contamination was found to be present at or below significant levels.

C-001-041

Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment* provides a discussion on the projected Greenhouse Gas emissions benefits related to the proposed construction and operations waste management goals and measures.

C-001-042

See response to Comment C-001-041 above.

equipment mufflers that may reduce temporary construction noise impacts within the surrounding community. Pile driving will be required to comply with a project-specific noise specification that will reflect the requirements of City of Boston noise ordinances, and will restrict the types of equipment that can be used and may limit the hours when certain activities can take place.

- Recycling of the materials resulting from removal of the existing above ground building structures, along with the below-ground foundation slabs and footings, plus all other surface asphalt and concrete that is removed during demolition will divert construction waste from landfills.

C-001-043 I also advise the proponent to require all project contractors to install after-engine emission controls such as diesel oxidation catalysts (DOCs) or diesel particulate filters (DPFs). MassDEP commends the project proponent for committing to installing these devices to reduce engine emissions.

Mitigation/Section 61

C-001-044 The FEIR should include a separate chapter updating commitments to project-related mitigation. This section should include a summary of mitigation commitments as well as draft Section 61 finding language for use by State agencies during each individual permitting process.

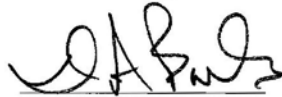
The updated Section 61 findings should specify in detail all feasible measures the proponent will take to avoid, minimize and mitigate potential environmental impacts to the maximum extent practicable. Section 61 findings should identify and clarify parties responsible for funding and implementation, and the anticipated implementation schedule that will ensure mitigation is implemented prior to or when appropriate in relation to environmental impacts.

Circulation

C-001-045 The FEIR should be circulated in compliance with Section 11.16 of the MEPA regulations and copies should also be sent to the list of "comments received" below and to Boston officials. A copy of the FEIR should be made available for public review at the Boston Public Library (East Boston Branch), the Revere Public Library, Chelsea Public Library and the Winthrop Public Library.

October 10, 2008

Date



Ian A. Bowles

Comments received:

09/08/2008 Boston Transportation Department

C-001-043

As discussed in Chapter 6, *Construction*, the construction of the SWSA Redevelopment Program will comply with the requirements of the DEP Clean Construction Equipment Initiative aimed at reducing air emissions from diesel-powered construction equipment. Under this initiative, Massport requires that construction contractors install emission control devices such as DOCs and DPTs on certain equipment types (i.e., front-end loaders, backhoes, excavators, cranes, air compressors, etc.). Idle-reduction and dust/odor control requirements are also implemented. Additionally, Massport will require contractors to utilize ultra-low sulfur diesel fuel for off-road construction vehicles.

C-001-044

Chapter 7, *Beneficial Measures/Proposed Section 61 Findings* provides a comprehensive description of the beneficial measures proposed as part of the SWSA Redevelopment Program, including the anticipated timing and/or phasing of those measures.

C-001-045

Appendix A includes the Final EA/EIR distribution list, which includes a comprehensive list of federal, state, regional, and city agencies as well as local public libraries and members of the general public.

EEA #14137

DEIR Certificate

10/10/08

09/08/2008 Susan Parker Brauner
09/23/2008 Avis Budget Group, Dollar Rent A Car, Vanguard Car Rental USA, Dollar Thrifty
Automotive Group, The Hertz Corporation, Enterprise Rent A Car
09/24/2008 Ida LaMattina of Gove Street Citizens Association
09/24/2008 Stacey and Jason Alstrom
09/24/2008 Jeffries Point Neighborhood Association
09/24/2008 Allyson Gray
09/25/2008 East Boston Community Development Corporation
09/25/2008 Environmental Protection Agency
09/25/2008 Richard Salini of East Boston Piers PAC
09/26/2008 Melissa Tyler
09/26/2008 Jonathan Ralton
09/26/2008 Department of Environmental Protection, NERO
09/26/2008 Peter Koff of Engel &Schultz, LLP
09/26/2008 Board of Trustees, Porter 156 Condominium Trust
09/26/2008 Susan Plunkett
09/26/2008 Massachusetts Department of Public Health
09/26/2008 Fred Salvucci
09/26/2008 Response to Comments from the Proponent
09/29/2008 Wig Zamore

IAB/ACC/acc



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

OFFICE OF THE
REGIONAL ADMINISTRATOR

September 25, 2008

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs
ATTN: MEPA Office, Anne Canaday
Ref: EEA No. 14137
100 Cambridge Street, Suite 900
Boston, MA 02114

RECEIVED

SEP 25 2008

MEPA

Craig Leiner
Deputy Director, Surface Transportation
Massachusetts Port Authority
One Harborside Drive, Suite 200S
East Boston, MA 02128-2909

Re: Draft Environmental Impact Report/Environmental Assessment for the Southwest Service Area Redevelopment Program at Boston-Logan International Airport, East Boston, MA (EEA No. 14137)

Dear Ms. Canaday and Mr. Leiner:

We have completed our review of the Draft Environmental Impact Report/Environmental Assessment (DEIR/EA), EEA Number 14137, for "Southwest Service Area Redevelopment Program at Boston-Logan International Airport, East Boston, Massachusetts." From an air quality perspective, we support the consolidated car rental facility and commercial parking project.

We offer the following comments on the air quality analysis presented in the DEIR/EA for your consideration.

F-001-001

1. The EA does not address the Boston Area Carbon Monoxide (CO) Attainment Area which has a SIP-approved maintenance plan. As the proposed Southwest Service Area Redevelopment Program is located within a carbon monoxide attainment area with a maintenance plan, the proposed action must also comply with the Federal General Conformity Rule, "Subpart B--Determining Conformity of General Federal Actions to State or Federal Implementation Plans," (40 CFR 93.150 - 93.160) for carbon monoxide.

A general conformity determination is required for carbon monoxide where the total of direct and indirect emissions of carbon monoxide within a maintenance area caused by a Federal action would equal or exceed the de minimis level of 100 tons per year of carbon

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F-001-001

Chapter 4, *Air Quality and Noise* provides additional information pertaining to CO emissions specifically related to compliance with the federal Clean Air Act (CAA) General Conformity Rule. This information demonstrates that the program-related operational and construction emissions are well below the General Conformity *de-minimis* threshold of 100 tons per year for this pollutant.

F-001-001

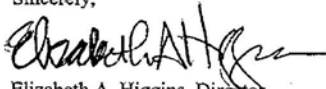
monoxide (40 CFR 93.153(b)(2)). The first step is to prepare a mesoscale air quality analysis to determine if the direct and indirect carbon monoxide emissions from the project fall below the de minimis level. If the project emissions fall below the de minimis level, the project is assumed to conform to the state implementation plan. However, if the project equals or exceeds the de minimis level, a formal general conformity determination is required.

F-001-002

2. We note that the general conformity de minimis levels for the Eastern Massachusetts 8-hour ozone nonattainment area which is within an ozone transport region (applicable to Logan Airport) are 50 tons per year for volatile organic compounds (VOC) and 100 tons per year for nitrogen oxides (NOx). The EA incorrectly identifies a more restrictive de minimis level of 50 tons per year for each VOC and NOx. The EA demonstrates that the Phase 1 Build (2012), Phase 2 Build (2017) and construction years (2009 through 2017) VOC and NOx emissions do not come close to triggering general conformity for ozone.

Thank you for the opportunity to comment on the DEIR/EA. Please contact Timothy Timmermann of EPA's Office of Environmental Review at 617-918-1025 with any questions regarding this letter.

Sincerely,



Elizabeth A. Higgins, Director
Office of Environmental Review

cc:

John Silva
U.S. Department of Transportation
Federal Aviation Administration
New England Region
12 New England Executive Park, Box 510
Burlington, MA 01803

F-001-002

As discussed in Chapter 4, *Air Quality and Noise*, the *de minimis* levels for VOCs and NOx have been corrected. The project-related operational and construction emissions do not trigger a General Conformity Determination for ozone as the computed values of VOCs and NOx are well within the 100-ton thresholds.

TOTAL P.03



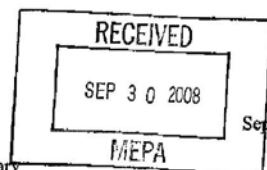
DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NORTHEAST REGIONAL OFFICE
205B Lowell Street, Wilmington, MA 01887 • (978) 694-3200

IAN A. BOWLES
Secretary

LAURIE BURT
Commissioner



September 26, 2008

Ian A. Bowles, Secretary
Executive Office of
Energy & Environmental Affairs
100 Cambridge Street
Boston MA, 02114

RE: East Boston
Southwest Service Area Redevelopment
Program at Boston-Logan International Airport
EEA # 14137 (previously 9790, 12216)

Attn: MEPA Unit

Dear Secretary Bowles:

The Massachusetts Department of Environmental Protection has in collaboration with the Division of Energy Resources in the Executive Office of Energy and Environmental Affairs (EEA/DOER) have reviewed the Draft Environmental Impact Report (DEIR) submitted by Massachusetts Port Authority to demolish existing structures in order to expand the ground transportation facilities, including a five-story, 2.77 million square foot parking garage for the consolidation of airport rental car operations and commercial parking on a 49-acre site in East Boston (EEA #14137). Maintenance and storage areas for rental car operations, which are referred to as quick turnaround areas (QTAs), would provide fueling, car washing and cleaning facilities, and vehicle storage. In addition, relocation of the taxi and bus/limousine operations is planned. The project is categorically included for the preparation of an environmental impact report. The Department provides the following comments.

Wetlands

The majority of the 49-acre site is not with a wetlands resource area or buffer zone. Wetlands jurisdiction extends to a small section of Harborside Drive within a buffer zone to wetlands, for which a Notice of Intent (NOI) is required to be filed. It also appears that the replacement of tidegates and stone dissipators at the outfall would entail work within coastal bank and land under water. A plan (C-2) in Appendix G (Sheet 2 of 3) shows replacement of tidegates at and/or near the Maverick Street outfall, which should be explained in the FEIR, as there does not appear to be any mention of this work in the DEIR.

S-001-001

As discussed in the *Summary* chapter, a Notice of Intent to the Boston Conservation Commission will be submitted during the final design phase.

S-001-002

In Attachment D of the October 2009 NPC, the drawing related to the tidegates (dated 1997) is and as-built plan for P4: Outfall Structures at Jeffries Cove 1 and was provided for reference only. The proposed program is not proposing to replace any existing tidegates.

S-001-001

S-001-002

This information is available in alternate format. Call Donald M. Gomez, ADA Coordinator at 617-596-1957. TDD# 866-539-7622 or 617-574-6868.
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Stormwater

Given that the NPDES permit (No. 0000787) was issued jointly by USEPA and MassDEP, stormwater drainage is subject to the requirements specified in NPDES Permit, although jurisdiction relating to the proposed stormwater drainage is somewhat more limited to the redevelopment provisions in the Wetlands Protection Act and regulations, Section F (page 51) of the NPDES permit provides, "Each Agency shall have the independent right to enforce the terms and conditions of this Permit." Therefore, as co-issuer of the NPDES permit, MassDEP's review of the proposed stormwater drainage system for compliance with the stormwater management standards extends to the entire 49 acres of the Southwest Service Area and not just the project segment proposed within the buffer zone.

S-001-003

MassDEP's peak rate attenuation Standard 2 does not require control of peak rates for drainage directed to a tidally influenced waterbody that is subject to coastal flooding. However, the stormwater drainage from the proposed Southwest Service Area is being directed to the Maverick Street outfall, a combined sewer overflow (CSO), where it may be necessary to attenuate drainage rates sufficiently to avoid CSO overflows, unless a credible and conservative stormwater analysis demonstrates that peak runoff rate controls are unnecessary. In this application, the Rational Method is not appropriate to estimate potential flow attenuation to the CSO outfall. For projects subject to review under the Wetlands Protection Act and regulations, the Rational Method may only be used for sizing of pipes and drainage conduits (MassDEP *Hydrology Handbook for Conservation Commissions*, 2002, page 4-7, Table 4-1).

S-001-004

In some cases, the Rational Method is more conservative than other runoff methods, such as the NRCS TR20/TR55, in that it does not assume any storage. However, in other cases, the Rational Method is less conservative. In order to properly evaluate the likelihood of unanticipated CSO occurrences, Massport must evaluate the runoff rate using TR20/TR55 as well as the flow model required to be developed by the NPDES permit for Outfalls 001, 002, and 004. The most conservative flow rates between the three methods (Rational Method, TR20/TR55, and Flow Model required by the NPDES permit) should be used to evaluate the likelihood of CSO discharges.

S-001-005

The MassDEP Stormwater Standard 3 in conjunction with Stormwater Standard 7 requires recharge to be provided to the maximum extent practicable. Given the DEIR indicates the tidally influenced high groundwater is about 6 to 8 below grade, it would appear to be practicable to induce groundwater recharge (the MassDEP recharge specifications only require 2 foot separation from groundwater, and allow recharge through fill, provided the fill material is clean and does not exceed the maximum contaminant level (MCL) thresholds). Although the DEIR mentions drywells are being investigated, a greater commitment to provide stormwater recharge must be made by Massport. Recharging the runoff also will serve to reduce peak rates of runoff, lessening the likelihood of some CSO discharges, depending on the volume of runoff recharged.

S-001-006

The stormwater management system needs to be designed to treat one inch of runoff multiplied by the impervious area because the project site is a land uses with higher potential

S-001-003

As discussed in Chapter 5, *Drainage and Wastewater*, the entire drainage area that encompasses the SWSA will comply with DEP's stormwater management standards.

S-001-004

Please refer to Attachment 1, *Responses to the DEP letter to MEPA on the June 2008 Draft EIR/EA* of Attachment D of the 2009 NPC for a detailed response to this comment.

S-001-005

Please refer to Attachment 1, *Responses to the DEP letter to MEPA on the June 2008 Draft EIR/EA* of Attachment D of the 2009 NPC for a detailed response to this comment.

S-001-006

Please refer to Attachment 1, *Responses to the DEP letter to MEPA on the June 2008 Draft EIR/EA* of Attachment D of the 2009 NPC for a detailed response to this comment. Chapter 5, *Drainage and Wastewater* also discusses how the proposed stormwater management plan complies with the DEP's stormwater management standards.

S-001-006 | pollutant loads (LUHPPL), and stormwater will be discharged to a critical area. Although shellfishing is prohibited, the shellfish beds are a critical area, which require compliance with 'critical area Standard 6 (Stormwater Management Handbook, Volume 1, Chapter 1, page 15). The best management practices for LUHPPLs and critical areas also require the use of emergency shutoffs (Stormwater Management Handbook, Volume 1, Chapter 1, page 13 and 16).

S-001-007 | The criteria for compliance with Standard 7 for redevelopment projects are more detailed under the stormwater regulations than the Stormwater Management Policy. The Stormwater Management Handbooks require submittal of a complete set of computations to demonstrate that the structural best management practices (BMPs) meet standards 2 through 6, in addition to demonstrating that existing conditions have been improved. Because of the requirements for calculations, it cannot be affirmed that the stormwater management system design described in the DEIR is in conformance with the redevelopment standard. The Department requests that this information be provided in the FEIR, and to simplify this demonstration, a redevelopment checklist provided in Volume 2, Chapter 3 of the Stormwater Management Handbook may be included with the appropriate calculations.

S-001-008 | An illicit discharge compliance statement and an associated map are required for Standard 10 to show that there are no illicit discharges at the project site. What measures will be implemented to prevent future illicit discharges?

S-001-009 | The Department appreciates that Massport is considering low impact development measures, including vegetated swales, permeable pavement, rain barrels/cisterns, and tree box filters. The stormwater management plan in the FEIR should be presented at a level of detail to show where these systems are planned to be used within the 49 acre site.

Mobile Source Air Quality

The proposed project is a two phased, (2012 Phase 1 and 2017 Phase 2) redevelopment of the Southwest Service Area (SWSA). The redevelopment will consist of a new five-level garage for consolidated rental car parking and up to 3,000 commercial parking spaces, a 270,000 square foot rental car operations support facility, a common shuttle bus system, a reconfiguration of Bus/Taxi/Limousine Pools, and new connecting ramps and other roadway/intersection improvements. While rental car storage spaces are not regulated under the Parking Freeze, the provisions of the Parking Freeze allow Massport to manage its parking space inventory on Logan Airport property as operational needs require so long as Massport does not exceed the inventory limiting number of 17,319 commercial and 3,373 employee parking spaces.

S-001-010 | MassDEP strongly supports the proposed consolidation of the rental car facilities onto Logan Airport property and the replacement individual rental car companies' shuttle bus system with a common shuttle bus system shared by the rental car companies and expects that these actions will reduce vehicle trips and emissions from these activities. The FEIR should provide additional information relative to the fuel use and emissions reductions expected from the common shuttle bus operation. Consistent with the requirements of the Parking Freeze, the FEIR should provide information on Massport's plans and efforts to relocate any remaining East Boston based rental car facilities or operations that serve Logan Airport onto Logan Airport that

S-001-007

Chapter 5, *Drainage and Wastewater* demonstrates that the stormwater management system is in conformance with DEP's Standards 2 through 6 and that the existing conditions will be improved prior to enacting Standard 7 for redevelopment.

S-001-008

Please refer to Attachment 1, *Responses to the DEP letter to MEPA on the June 2008 Draft EIR/EA* of Attachment D of the 2009 NPC for a detailed response to this comment.

S-001-009

Please refer to Attachment 1, *Responses to the DEP letter to MEPA on the June 2008 Draft EIR/EA* of Attachment D of the 2009 NPC for a detailed response to this comment.

S-001-010

The emission reductions expected from the Unified Bus System operations are presented in Chapter 4, *Air Quality and Noise*. These reductions are a direct result of a reduction in expected annual fuel usage of about 400,000 gallons per year by 2018 (depending on the Unified Bus System fuel option) and a reduction of around 5,000 tons per year of CO₂e emissions.

S-001-011

As discussed in Chapter 1, *Proposed SWSA Redevelopment Program*, there are no off-airport rental car companies that serve Logan Airport that are not involved with the consolidation. Each of the eight RAC brands that operate at the airport will move their ready and return operations into the consolidated facility upon the opening. Off-airport locations will continue to be used on a limited basis for maintenance and storage operations for the time being.

S-001-011 are not part of the proposed consolidation. MassDEP recommends that the proponent strive to consolidate all such facilities and operations onto Logan Airport property.

The proponent predicts the number of air passengers using Logan Airport will grow at a rate of 2.3 percent per year and assumes that the percentage of taxi, rental car, and limousine traffic entering and exiting the SWSA will increase accordingly. At this growth rate, the trip generation in the SWSA study area, under SWSA-No-Build condition ranges from 27,967 - 34,092 average weekday daily traffic trips (AWDT) in 2012 to 30,657 - 37,472 AWDT in 2017, resulting in vehicle trip increases of 12 percent by 2012 and 25.5 percent by 2017.

Under the SWSA-Build condition, trip generation will increase from 26,080 - 30,680 AWDT in 2012 and 28,905 - 33,985 AWDT in 2017. The DEIR estimates the proposed project achieves an overall trip volume reduction of 6 to 10 percent of traffic entering and exiting the SWSA site. However the relocation of the bus and limousine pool will increase vehicle trips to the North Service Area (NSA). According to the DEIR Chapter 4, Table 4-5, the bus and limousine pool trips range from 3,300 - 4,050 in 2012 to 3,670 - 4,480 in 2017, approximately 75 percent of the overall AWDT between the No Build and Build conditions in the SWSA. In the FEIR, the project proponent should take into account the shift in trips from the SWSA to the NSA. The FEIR also should indicate how Logan Airport air passenger and ground service peak activity periods, such as Sunday afternoon and evening arrival periods are accounted for in the traffic analysis.

Air Quality Analyses

In accordance with the Secretary's Certificate on the ENF dated February 26, 2008, the air quality assessment contained in the DEIR included a microscale analysis of localized carbon monoxide (CO) and particulate matter (PM2.5 and PM10) conditions, a mesoscale analysis of volatile organic compounds (VOCs) and nitrogen oxides (NOx) emissions in the project study area, and a greenhouse gas analysis to quantify carbon dioxide (CO₂) emissions. The greenhouse gas analysis compared the direct and indirect emissions from the combined stationary and transportation sources under the respective 2007 existing condition and respective Build and No Build conditions for 2012 and 2017.

The microscale analysis applied atmospheric dispersion modeling for CO and PM2.5 and PM10 and "hotspot" modeling for roadway/intersections. The atmospheric dispersion modeling was conducted using the EPA AERMOD, Massachusetts-specific MOBILE 6.2 motor vehicle emission factors and meteorological data collected at Logan Airport. The CO "hot-spot" modeling was conducted using the EPA CAL3QHC model combined with Massachusetts-specific MOBILE 6.2 motor vehicle emission factors.

The mesoscale analysis predicted VOC and NOx emissions using the current US EPA emission model (MOBILE 6.2), and traffic flow conditions for the respective 2007 existing condition, and respective Build and No Build conditions for 2012 and 2017. The mesoscale analysis also was used to estimate the indirect emissions from transportation CO₂ emissions associated with the additional project related vehicle trips. The calculation compared CO₂ emissions for the respective 2007 existing condition, and respective Build and No Build conditions for 2012 and 2017.

S-001-012

The traffic analysis presented in Chapter 3, *Surface Transportation* accounts for the shift of the Flight Kitchen to the North Service Area (NSA) under future No-Build/No-Action and future Build Conditions. Chapter 6, *Construction* accounts for the temporary Bus/Limousine Pool traffic to the North Service Area during the construction period.

S-001-013

Chapter 3, *Surface Transportation* provides specifics regarding representative traffic levels during the weekday and Sunday peak hours. Traffic during Thursday peak hours for overall airport traffic and rental car traffic is greater than Sunday afternoon or evening peak hours.

Air Quality Results

The results of the atmospheric dispersion modeling and "hotspot" modeling indicate that the proposed project concentrations are well below NAAQS for CO and PM10/2.5. The mesoscale analysis indicates the proposed project is expected to reduce NOx emissions by 23.1 and 6.33 tons/year in 2012 and 2017, respectively, when compared to Future No-Build Conditions. The proposed project also is expected to result in reductions of up to three percent in VOC emissions when compared to the 2012 and 2017 No-Build Conditions.

CO₂ emissions associated with the SWSA Build Conditions are reported as 11,927 metric tons of CO₂ /year by 2012, and 12,836 metric tons of CO₂ /year by 2017. These values represent a 17 percent and 15 percent decrease in SWSA-related CO₂ emissions when compared to the corresponding 2012 and 2017 No-Build Conditions, respectively.

MassDEP approved the modeling parameters used in the microscale and mesoscale analyses and accepts the modeling assumptions of the greenhouse gas analysis and accuracy of the analyses' results. The transportation related air quality benefits associated with the proposed project are largely derived from the reduction of vehicle trips, roadway improvements, and the proposed TDM measures. The DEIR commits to a reasonable list of traffic mitigation measures and TDM measures, as listed in Chapter 11, Table 11-1. In addition to the measures provided, MassDEP recommends that the FEIR explore additional TDM measures which may yield further air quality benefits.

Required Measures

Compliance with the Massachusetts Idling Regulation

MassDEP is pleased to see Massport's commitment to comply with the Massachusetts Idling regulation (310 CMR 7.11). The regulation prohibits motor vehicles from idling more than five minutes, unless the idling is necessary to service the vehicle or to operate engine-assisted power equipment (such as refrigeration units) or use other associated power. The proponent should post idling restriction signs in all loading and drop-off areas within the site to remind all drivers, patrons, and delivery personnel of the state's idling regulation. Questions regarding this regulation should be directed to Julie Ross of MassDEP at 617-292-5958.

Compliance with the Massachusetts Rideshare Regulation

MassDEP also is pleased with the commitment to comply with the Rideshare Regulation (310 CMR 7.16). The regulation applies to employers with 250 or more daily employees. Employers subject to the Rideshare Program must implement a series of incentives that are designed to reduce the number of trips made by employees who drive alone to work. To date, employers with 1,000 or more employees and employers with 250 or more employees that are subject to the Air Operating Permit Program (as detailed in MassDEP regulation, 310 CMR 7.00, Appendix C) must comply with the Rideshare regulation. Questions regarding this regulation should be directed to MassDEP's Rideshare Helpline at 617-292-5663 for assistance in complying with this air quality program.

Construction Period Air Quality Mitigation Measures

MassDEP recommends that project proponent commit to require all project contractors to install after-engine emission controls such as diesel oxidation catalysts (DOCs) or diesel

S-001-014

Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment* provides additional information regarding the proposed Transportation Demand Management measures.

S-001-015

As discussed in Chapter 4, *Air Quality and Noise*, Massport shall post idling restriction signs in all loading and drop-off areas within the site in accordance with Massachusetts General Law (MGL), Chapter 90, Section 16A, 310 Code of Massachusetts Regulation (CMR), Section 7.11 and MGL, Chapter 111, Sections 142A – 142M (The Massachusetts Anti-Idling Law).

S-001-014

S-001-015

particulate filters (DPFs). MassDEP commends the project proponent for committing to installing these devices to reduce engine emissions. The Department's guidance document, *Diesel Engine Retrofits in the Construction Industry - A How to Guide*, is available on MassDEP's website at <http://www.mass.gov/dep/air/diesel/conretro.doc>. Additional questions or help can be directed to Gary Rennie of MassDEP at 617-292-5869.

As of June 2007, all standard off-road diesel fuel must have no more than 500-ppm sulfur, and in 2010 the maximum sulfur level in off-road fuel will be reduced to 15 ppm. The 500-ppm fuel is known as low sulfur diesel (LSD) fuel while 15-ppm fuel is referred to as ultra-low sulfur diesel (ULSD) fuel. Because of the current availability of ULSD, MassDEP recommends the early use of ULSD fuel to reduce additional amounts of fine particulate matter, which is associated with the state's high incidence of asthma and is a probable carcinogen.

Greenhouse Gas (GHG) Analysis (Stationary Sources)

The GHG information does not appear to include a modeling analysis of the energy use and CO₂ emissions from the project's direct and indirect stationary sources, in accordance with the MEPA Greenhouse Gas Emissions Policy and Protocol.

DOER has reviewed the DEIR with respect to its commitments to mitigation measures for reducing greenhouse gases from stationary sources. The DEIR states that the project will strive to meet the Mass LEED Plus program (5-2). The Mass LEED Plus standard established by the Sustainable Design Roundtable calls for energy performance in buildings greater than 20,000 sq ft, "to exceed MA Energy Code requirements by at least 20 percent." (http://www.mass.gov/Eoeca/docs/eca/lbe/susdesign_report.pdf). Meeting this standard would be in keeping with the MEPA GHG Policy which states that the project baseline for energy usage should be based on code-compliant buildings. Therefore, energy mitigation measures for the project must extend beyond meeting the MA State Building Code. However, the FEIR needs to clarify the standard the project intends to meet. The DEIR refers to the MA LEED plus requirement as 20 percent energy cost savings (page 5-20) or as 20 percent energy efficiency over the baseline (page 5-19), which is not the same as the MA LEED Plus standard issued by the Sustainable Design Roundtable.

As the project moves forward, it is recommended that the project proponent contact the New Construction division of its electric utility provider, NStar, as well as its natural gas provider to take advantage of any potential rebates and technical assistance available for the installation of highly energy efficient equipment.

DOER commends the project proponent for its commitment to the following worthwhile energy efficiency and mitigation measures. In general, the energy modeling for the FEIR should reflect all of the specific mitigation measures selected, including the following:

- Interior natural daylighting through clearstory windows and/or skylights;
- High-efficiency lighting and lighting system controls, including motion sensors;
 - DOER notes that enhanced or "Super T8" lighting, T5 or metal halide lighting should be installed, and for exit signs, LED lighting. The FEIR needs to identify specifically the lighting that will be used and reflect it in the energy modeling.
- Efficient, directed exterior lighting;

S-001-016

As discussed in Chapter 6, *Construction*, Massport will require the contractor to comply with the requirements of the DEP Clean Construction Equipment Initiative aimed at reducing air emissions from diesel-powered construction equipment. Under this initiative, Massport requires that construction contractors install emission control devices on a variety of equipment types (i.e., front-end loaders, backhoes, excavators, cranes, air compressors, etc.). Idle-reduction and dust/odor control requirements are also implemented. Furthermore, Massport will require the contractor to utilize ultra-low sulfur diesel for off-road construction vehicles/equipment.

S-001-017

As presented in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, the proposed program will be designed and constructed to be 20% more energy efficient over the MA Building Code minimum requirements as the baseline and in compliance with the MA LEED Plus requirement.

Also required under MA LEED Plus is "basic" certification under the LEED-New Construction & Major Renovation certification (version 2.2) (a minimum of 26 points). As part of Energy & Atmosphere (EA) credit 1 (Optimize Energy Performance), energy efficiency is accounted for as energy cost savings and as of June 2007 a minimum of 2 points out of 10 points total, or 14% efficiency, are required under EA credit 1. Therefore, in order to comply with MA LEED Plus, the proposed Redevelopment Program will have to account for both optimal energy efficiency compared to the MA Building Code and well as energy cost savings.

S-001-018

Massport plans to pursue available grants for energy efficiency.

S-001-019

- High-albedo roofing materials;
- Energy-efficient mechanical systems and high-efficiency HVAC systems;
 - The DEIR notes different HVAC systems being evaluated. The FEIR needs to specify the systems that will be used and reflect it in the energy modeling. Although there is a potential for additional first costs with highly efficient systems, more efficient units provide definite economic benefits over the life of the system.
- Architectural elements on the façade that accommodate natural ventilation;
- Window glazing; and
- Independent building control systems;
 - Energy management systems help ensure that a building's energy system functions as designed over the long term. A system or strategy for monitoring energy performance can eliminate inefficient building operations, such as heating and cooling operating simultaneously in January, and by taking advantage of free night-time cooling during peak, shoulder periods.

S-001-020

Along with these measures, the project proponent is also strongly encouraged to evaluate the use of and roof and wall insulation of the maximum R-value possible. The incremental cost of additional insulation is insignificant when measured against the energy savings over the life of the building.

S-001-021

DOER also notes that with the project seeking LEED certification for the buildings, building commissioning is required by LEED. DOER encourages the project proponent to have building commissioning done by a third-party to ensure that the commissioning process is thorough and objective.

S-001-022

With respect to onsite generation and renewable generation, the DEIR mentions that the Massport is investigating rooftop photovoltaic (PV) systems on the Customer Service Center and micro-wind on the parking structure. Onsite renewable energy can provide credits toward LEED certification. The following website provides information regarding grants for PV available through the Commonwealth Solar program and tools for performing basic life cycle cost analyses: http://www.masstech.org/renewableenergy/commonwealth_solar/index.html#. PV installed with the high-albedo roofing materials will operate more efficiently due to the added reflectivity provided. If for some reason solar PV does not appear to be economically feasible at this time, at a minimum, roofs with future potential for PV should be constructed to support the added weight of a PV system for possible installation during project construction or at a future date. Given the continued reduction in the cost of PV and the continued rise in electricity prices, the project should continue to consider the opportunity for installing PV at a future date, through ownership or as a host to a third-party owned PV array under a favorable power purchase agreement.

Water Conservation

Although the main sources of GHG from this project are associated with building heating and cooling, lighting, and vehicle travel, the energy required to provide potable water and treat wastewater also will be a source of GHG, and in particular CO₂. Massport's goal is to reduce water use by about 20 percent and landscape irrigation by 50 percent (page 11-3). The DEIR also indicates that for compliance with MA LEED Plus criteria, water use demand will be reduced by installing high-efficiency low flow plumbing fixtures, car wash water reclamation systems, and water efficient

S-001-019

Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, describes and quantifies proposed program improvements aimed at reducing Greenhouse Gas emissions, in accordance with the *MEPA Greenhouse Gas Policy and Protocol*. As demonstrated by the assessment, the Program would reduce mobile source CO₂ emissions by 39 and 36 percent (for the Unified Bus System Diesel Hybrid Option and Unified Bus System CNG Option, respectively) and stationary source CO₂ emissions by at least 20 percent under the 2018 Build Condition when compared to the 2018 No-Build/No-Action Condition.

S-001-020

As presented in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, as part of the overall program design criteria Massport is committed to achieving a minimum 20% energy efficiency. A variety of building improvements such as roof and wall insulation are being considered in order to meet and strive to exceed this goal.

S-001-021

As presented in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, Massport will implement a commissioning process conducted by a third party, as required by MA LEED Plus.

S-001-022

As presented in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, the proposed program will utilize renewable energy (e.g., solar/wind) to supplement at least 2.5 percent of the overall electricity consumption. Additionally, the proposed program will be designed and constructed to accommodate future additional rooftop renewable energy installation(s) as a retrofit.

S-001-023 landscaping. The FEIR also should identify the low-flow fixtures and equipment that will be installed to reduce water demand. Using the USEPA WaterSense website at <http://www.epa.gov/owwm/water-efficiency/>, it also should be possible to affirm that at least 20-25 percent savings would be achieved with the plumbing fixtures and equipment selected. To achieve water and energy savings goals, consideration also should be given to using HVAC equipment with advanced evaporator coils, which have been reported to reduce water loss by about 50 percent and energy demand by up to 25 percent.¹ Other mitigation measures appropriate for reducing energy use for water and wastewater are water distribution system improvements to eliminate un-accounted for water losses and infiltration and inflow (I/I) removal from sewer mains, which also is required to offset wastewater generated by the project which has the potential to increase sewer and combined sewer overflows.

Materials Management

S-001-025 MassDEP commends the applicant for recognizing the importance of materials management within its DEIR filing for the Southwest Service Area redevelopment project. In order to address GHG emissions related to materials management in the FEIR, MassDEP requests that the applicant quantify the GHG impacts of materials management for the project development and projected future operation. By quantifying these impacts, the applicant's GHG mitigation efforts related to materials management can be more clearly identified and targeted appropriately. MassDEP seeks quantification to help guide changes in the project, which provide a comprehensive approach to materials management throughout the design, construction, and operational phases of the project. There are a number of resources available to help quantify GHG impacts associated with efficient materials management, including the USEPA Warm Model, available at the following website: http://www.epa.gov/climatechange/wvcd/waste/calculators/Warm_home.html, and the Building Reuse Calculator at: <http://www.wastematch.org/calculator/calculator.htm>.

S-001-026 During the design phase, MassDEP requests the applicant address waste reduction, environmentally preferable materials use, and the need to design for the storage and collection of recyclables. In order to plan for waste reduction, the applicant should consider implementing a waste prevention purchasing policy, which may include management options for reducing shipping and packaging materials, and if necessary, managing excess materials through unused product return or donation.

S-001-027 MassDEP also requests that the DEIR provide the following information:

- a list of the environmentally preferred products to be used,
- the GHG impacts of using these materials, and
- an explanation for why an expanded commitment to use additional EPP materials (including on-site use of demolition materials, regionally produced materials, recycled content materials) is not applicable or cannot be confirmed.

S-001-028 MassDEP requests information on the square footage of storage areas for recyclable materials and the types of materials expected to be stored and recycled. The FEIR should, at a minimum, demonstrate that the storage area would be sufficient to manage waste materials

¹ *Greener Pastures for America's Homebuilders?* Calvert Group, LTD. with collaboration from the Boston College Institute for Responsible Investment. March 2008.

S-001-023

Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment* includes the projected Greenhouse Gas (GHG) emissions reductions from proposed water conservation and wastewater reduction performance criteria (including low-flow plumbing fixtures and car wash water recycling) as well as other measures that are anticipated to result in some reduction of GHG emissions.

S-001-024

Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, provides further details on the proposed HVAC system options for the proposed program. Proposed water and energy savings measures are also discussed in Chapter 2.

The suggested use of efficient "advanced evaporator coils" is assumed to refer to the application of a low water usage cooling towers. In this case, this technology would not apply to the Program because the system being considered uses an air cooled chiller that does not utilize a cooling tower. Consideration was given to utilizing a system that uses a cooling tower; however, it was not selected for the following reasons:

- 1) the air cooled system uses zero water vs. a cooling tower which consumes water;
- 2) the cooling tower requires that chemicals be introduced into the water to prevent corrosion and there are concerns that drift from the cooling tower plume would settle on nearby cars and other nearby surfaces; and
- 3) for these buildings, the air cooled system is a more cost effective approach when balancing first cost verses operating costs.

S-001-025

Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment* provides a discussion on the projected Greenhouse Gas emissions benefits related to the proposed construction and operations waste management goals and measures.

S-001-028 | currently prohibited from disposal in Massachusetts. A list of these materials can be found on the
S-001-029 | MassDEP website: <http://www.mass.gov/dep/recycle/solid/regs0201.htm>. In addition, MassDEP requests that the applicant identify how hazardous materials generated during facilities' operations, e.g., spent fluorescent bulbs, lubricants, waste oil, and other hazardous materials, would be managed and stored.

S-001-030 | During the **construction phase**, MassDEP recommends that the applicant's material management efforts focus on material reuse and recycling. MassDEP requests the applicant commit to developing a construction waste management plan that fully complies with the Massachusetts Waste Bans and establishes a minimum reuse/recycling goal of 50 percent. The Department has demonstrated through pilot construction projects that this planning results in significant reductions in waste and cost savings for developers. Information and resources to assist in the development and implementation of a construction management plan can be found at <http://www.mass.gov/dep/recycle/reduce/managing.htm#project>.

S-001-031 | In the **operations phase**, the applicant should develop and implement a waste management plan to ensure compliance with the MassDEP Waste Bans. The Department offers resources to assist in this area including planning tools, contracting language, and lists of service providers (<http://www.mass.gov/dep/recycle/reduce/assistan.htm#reduce>). The waste management plan should establish a target-recycling goal of more than 50 percent. This level of recycling has been achieved consistently in similar projects with demonstrated operational cost savings and capital asset appreciation benefits.

Massachusetts Contingency Plan (MCP)/M.G.L. Chapter 21E

The waste site clean up issues have been described fully in the DEIR, and Massport is committed to remediate the site as necessary during construction of the project.

The MassDEP and EEA/DOER appreciate the opportunity to comment on this proposed project. Please contact Jack Zajac at (978) 694-3240 for further information on the wastewater issues. If you have further questions on GHG issues, the MassDEP contact is Philip.Weinberg@state.us, (617) 292-5972, and the DOER contact is Meg.Lusardi@state.ma.us, (617) 626-7364. If you have any general questions regarding these comments, please contact Nancy Baker, MEPA Review Coordinator at (978) 694-3338.

Sincerely,



John D. Viola
Deputy Regional Director

cc: Brona Simon, Massachusetts Historical Commission
Phil Weinberg, Christine Kirby, Tom Maguire, MassDEP-Boston
Meg Lusardi, EEA/DOER

S-001-026

As discussed in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, while building material components and finishes have not yet been selected, design criteria will consider contextual appropriateness, durability, longevity as well as environmentally-friendly. This criteria will inform the final design process.

Regarding recycling, Massport is committed to diverting and/or reducing construction waste to landfills as part of the Construction Management Plan and anticipates a reduction of 75 percent. During operation, Massport will institute a goal of 50 percent reduction in operational waste by implementing a recycling program and by providing adequate space for sorting, storage and pick-up of recycled materials in each building and in service areas.

S-001-027

As presented in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, Massport is committed to a variety of sustainable design and construction goals, including the incorporation of environmentally-friendly building materials. It is premature in this stage of conceptual design to identify specific products and, therefore, it is not possible to calculate the Greenhouse Gas emissions related to them. However, one key goal is to specify products extracted and manufactured locally to the Project Site, which would greatly reduce the overall GHG emissions associated with transporting those materials.

S-001-028

As discussed in Chapter 2, *Sustainable and Greenhouse Gas Emissions Assessment*, Massport will institute a goal of 50 percent reduction in operational waste by implementing a recycling program designed to facilitate recycling of mixed paper, newspaper, plastics, metals, glass,

Kevin Brander, Iris Davis, Jack Zajac, Rachel Freed, Jill Provencal, MassDEP-NERO
Marianne Connolly, MWRA
John E. Sullivan, BWSC
City of Boston, conservation commission

cans, and cardboard by employees and customers. Massport will provide adequate space for sorting, storage, and pick-up of recycling materials in each of the proposed buildings and within the service areas.

S-001-029

As discussed in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, each rental car company that operates at the airport currently has environmental operations policies in place, including the proper handling and recycling of waste produced during the course of operations. These policies extend to vehicle related fluids, parts, and materials, as well as other items such as paper and lightbulbs. Massport will work closely with the rental car companies to ensure that these policies continue and/or are expanded at the proposed ConRAC facility.

S-001-030

As presented in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, in keeping with the sustainable goals of the proposed program, Massport is committed to diverting and/or recycling construction and demolition waste during the construction phases.

S-001-031

As discussed in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, Massport will commit to a goal of a minimum 50% recycled waste in coordination with the rental car companies.



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September 26, 2008

RECEIVED

SEP 26 2008

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs
ATTN: MEPA Office, Anne Canaday
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100 Cambridge Street, Suite 900
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MEPA

Dear Ms. Canaday:

Thank you for the opportunity to comment on the Draft Environmental Impact Report/Environmental Assessment (DEIR/EA) for the Southwest Service Area Redevelopment (SWSA) Program at Boston-Logan International Airport. The following comments focus on the summary of the Air Quality Assessment conducted for the proposed SWSA Redevelopment Program and provided in Chapter 5 of the DEIR/EA. The DEIR/EA is also being submitted for comments and possible adoption by the US Federal Aviation Administration (US FAA) under the National Environmental Protection Act (NEPA).

As you may be aware, the Massachusetts Department of Public Health, Bureau of Environmental Health (MDPH/BEH) received a legislative mandate to conduct a study of the health impacts of the Logan International Airport "...on any community that is located within a 5 mile radius of the airport and is potentially impacted by the airport." The goal of the Logan Airport Health Study is to assess the prevalence of certain health outcomes among residents of selected communities, with an effort to determine the possible relationship between opportunities for environmental exposure to activities (primarily air pollution) at Logan Airport, and the health outcomes of interest, which include respiratory, cardiovascular, and auditory endpoints. For environmental exposure data, we have conducted extensive air dispersion modeling to quantify the air quality impacts of all criteria pollutants from airport operations using US FAA's Emissions Dispersion and Modeling System (EDMS). We are now conducting the final phase of the study that involves statistical analyses of the health survey data with the environmental modeling data and describing and interpreting the results in a draft report, which will then be reviewed internally, revised, and submitted for peer-review. Our goal is to produce a final report later in the summer of 2009.

The Air Quality Assessment for the proposed SWSA Redevelopment Program evaluated emissions of motor vehicle traveling to, from and moving around the proposed SWSA area. All other sources of airport-related emissions including aircraft, ground support equipment, and stationary sources (e.g., heating plant) are not included in the Air Quality Assessment because they "are not associated with and would not be altered as a result of the SWSA Redevelopment Program (Chapter 5, page 5-6). The Air Quality Assessment consists of: (1) an emissions inventory of ozone precursors (NOx and VOCs), which is intended to "evaluate the potential impacts of the proposal on regional ozone formation"; and (2) results of atmospheric dispersion modeling of particulate matter (PM2.5, PM10) and carbon monoxide (CO) that are associated with motor vehicle emissions expected from the proposed SWSA program. The potential impacts of the proposal on air quality are predicted for existing conditions (2007), future no-build/no-action conditions (2012 and 2017) and future build conditions (Phase I – 2012; Phase II/Full Build by 2017).

The DPH/BEH has carefully reviewed the summary and appendices associated with the Air Quality Assessment for the proposed SWSA Redevelopment Program. Unfortunately, the paucity of data and information provided in the DIER/EA makes it difficult at best to evaluate the air dispersion modeling analysis. Nevertheless, we have identified a number of overarching factors that need to be considered in the DEIR/EA for this project and provided general comments on the modeling approach.

First, one of the key benefits cited in the Air Quality Assessment chapter is to "reduce air emissions associated with motor vehicle operations on the airport" by consolidating the rental car shuttle bus fleet and reducing vehicle miles traveled (VMT) associated with rental cars, taxis, limousines, vans and buses traveling to, from and moving around the airport. While we applaud the proponents desire to reduce overall emissions across the entire airport, we are concerned that the potential exists to substantially increase pollutant exposures to residents of the Jeffries Point and Gove Street neighborhoods from the collocation of all rental car services as well as the operation of a parking garage to one location along the southwest border of the airport that directly abuts these neighborhoods. Again, we recognize Massport's efforts to include air dispersion modeling in the Air Quality Assessment to predict ambient concentrations of particulate matter and CO from the proposed SWSA Redevelopment Program; however, based on the limited data provided in the DIER/EA, it does not appear that the input parameters to the model adequately simulate the upper-end of the range of motor vehicle emissions from rental car services or from the proposed parking garage. As stated above, additional comments on these concerns are provided later in this letter.

Second, we believe that the proximity of the proposed SWSA Redevelopment Program to the nearby residential communities warrants special consideration because the Massachusetts Executive Office of Energy and Environmental Affairs (EEA) has designated East Boston as an Environmental Justice community (see Figure 1). This designation indicates that the DIER/EA needs to address the public health concerns of residents that are disproportionately susceptible to increased exposures to environmental pollutants that may result from this proposed program. These concerns are supported in an East Boston study by Clougherty et al. (2007) who found an association between traffic-related pollutants – based on 18 years of data collected as part of the

S-002-001

As described in Chapter 4, *Air Quality and Noise*, the following two issues were raised associated with the technical methodology for the air quality analysis for which additional clarification was requested: (i) motor vehicle engine "cold-start" emission factors; and (ii) the modeling of ultra-fine particulate matter. In both cases, supplemental information was provided to MEPA following the publication of the June 2008 Draft EIR/EA which is re-presented and expanded on in Chapter 4 of this Final EIR/EA.

S-002-002

As described in Chapter 8, *Federal Requirements*, the SWSA Redevelopment Program is a major component of Massport's goal to reduce overall emissions at the airport. Reductions are projected for all emissions for all sources when comparing existing to future conditions. Additionally, by consolidating the rental car shuttle bus fleet and combining it with Massport bus routes (the Unified Bus System), all shuttle bus-related emissions are reduced when comparing future year build to no-build. These local and regional air quality benefits (reductions) are specifically related to CO, NOx, VOC, and GHG emissions.

There are no significant noise impacts associated with the SWSA Redevelopment Program. By consolidating and improving the efficiency of existing rental car operations and due to the facility design, it is expected that the SWSA Redevelopment Program would help to reduce overall future noise levels in adjacent neighborhoods and provide additional buffering from airport activities outside the SWSA.

Massport air quality monitoring program -- and asthma diagnosis among children with elevated exposure to violence and other stressors.

S-002-003

Third, given the complex nature of motor vehicle emissions, we are also concerned that dispersion modeling was limited to PM and CO. A substantial body of evidence from epidemiological studies has found strong positive and statistically significant associations between the exposure to traffic-related pollutants from living near roadways (e.g., <300 meters) and adverse health outcomes in both children and adults. Of particular importance are the studies that point to the adverse effects in children including increase in respiratory symptoms, allergic sensitization, and elevated risk for the development of asthma (McConnell et al., 2006, Nordling et al., 2008, Morgenstern et al., 2008). Associations have also been observed between long-term exposure to traffic-related pollutants, including ultrafine particles, and the risk of heart attack (Tonne et al., 2006, Brugge et al., 2007), reduced survival after heart failure (Medina-Roman et al., 2008), increased risk of coronary heart disease, particularly fatal events (Rosenlund et al., 2008), and decreased lung function in women living in urban areas (Suglia et al., 2008). In addition, our own Bureau released a study several months ago that demonstrated statistically significant associations between pediatric asthma and residential proximity to high traffic areas in the Merrimack Valley (MDPH, 2008).¹

S-002-004

We are also concerned with a key finding in Chapter 5 that implies that the predicted 24-hour exposures to PM_{2.5} of 34 µg/m³ are not a public health concern. The US EPA Staff Paper found sufficient evidence to support an air quality standard for 24-hour concentrations of PM_{2.5} as low as 25 µg/m³. Furthermore, given the continuum of health effects associated with particulate matter exposures at current ambient levels, strong evidence indicates that additional exposures associated with fresh motor vehicle emissions, including ultrafine particles, may present serious public health concerns (US EPA, 2005).

Specific comments on the Air Quality Assessment are as follows:

1. MDPH/BEH recognizes that emissions inventory data in general may be useful for long-range regional planning objectives, but these data alone do not provide sufficient information for public health and environmental protection agencies to assess potential public health impacts from airport operations.
2. The DPH/BEH applauds Massport for conducting atmospheric dispersion modeling to assess air quality impacts in the vicinity of the proposed redevelopment area, including receptors in the Jeffries Point and Gove Street neighborhoods. However, we have specific concerns about the input to the AERMOD model. For example, it is unclear whether MOBILE 6.2 emission factors are appropriate to estimate the emissions from rental car services and emissions from the parking garage. Our concern is whether start-up or cold start emissions, which can be an order of magnitude higher than stabilized exhaust emissions, have been adequately evaluated in the Air Quality Assessment (Singer et al., 1999). According to Singer et al. (1999) at start-up the fuel-air mixture is intentionally enriched to facilitate ignition and improve cold engine operations. This enrichment leads to increased production of CO and HC during combustion, and limits the oxidation of

S-002-005

¹ http://www.mass.gov/Eoehhs2/docs/dph/environmental/tracking/asthma_merrimack_valley_report.pdf

S-002-003

As described in Chapter 4, *Air Quality and Noise*, dispersion modeling of carbon monoxide (CO) and particulate matter (PM), including reparable particulate matter (PM₁₀) and fine particulate matter (PM_{2.5}) was conducted.

As there are presently no State or Federal Ambient Air Quality Standard (AAQS) for ultra-fine particulate matter (PM_{0.1}) nor any EPA-recommended modeling methods for this particle size, this pollutant was not directly assessed as part of the updated air quality assessment. However, the results for both PM₁₀ and PM_{2.5} presented herein reveal no violations of the NAAQS for these pollutants. Because PM_{0.1} and PM₁₀/PM_{2.5} have some distinct similarities in terms of their origins and transport, similar trends would be expected for the ultra-fine particles.

S-002-004

As described in Chapter 4, *Air Quality and Noise*, the findings and conclusions obtained from the dispersion modeling analysis of fine particulate matter (PM_{2.5}) are based upon comparison with the current state and federal Ambient Air Quality Standards (AAQS) for this pollutant. It is also noteworthy that the modeled future-year values under both the future No-Build/No-Action and Build Conditions are not substantially different (and in no cases are they worse) than the modeled Existing Conditions.

S-002-005

As described in Chapter 4, *Air Quality and Noise*, for this assessment, emission factors were specified from MOBILE6.2 using DEP-recommended input parameters reflecting Massachusetts-specific motor vehicle fleet mix characteristics, ambient temperatures, vehicle registration distributions, and emission control strategies. For "cold start" emission factors, standardized MOBILE6.2 parameters (e.g. soak

S-002-006

S-002-007

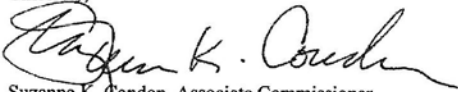
these pollutants in the catalytic converter. In additional automobile catalysts must reach temperatures above 400-700 degrees Fahrenheit before significant pollution conversion is achieved. Longer periods of vehicle inactivity and lower ambient air temperatures increase the heating required for the catalyst to reach effective operating temperatures, and thus prolong the period of elevated exhaust emission rates. There are also increased fractions of unburned fuel and acetylene during cold start vs. during hot stabilized driving. In addition, the US EPA Office of Transportation and Air Quality analysis of MOBILE 6.2 found that emission factors for cold start substantially underestimate emission of gaseous air toxics for light-duty vehicles and trucks meeting the EPA's most recent standards (Cook et al., 2007). For example, given this information, it would be important to determine whether the air dispersion modeling has taken into account the potential impact of cold start emissions from these vehicles under different meteorological conditions (e.g., stagnation), different seasonal temperatures, and other factors that promote particle formation or increase motor vehicle emissions.

3. Air dispersion modeling of motor vehicle emissions should be extended to all pollutants associated with the motor vehicle exhaust including SO₂, NO_x, VOCs and air toxics (e.g., benzene, aldehydes). We also believe that the assessment should include potential exposure to volatile hydrocarbons from evaporative emissions and exposure to various fuel formulations, including ethanol. Since the EDMS air dispersion modeling module works in tandem with the emissions inventory module that was used to estimate the emissions of ozone precursors presented in the Air Quality Assessment, we believe this analysis can be generated quickly and cost effectively. Furthermore, Massport can augment this modeling analysis with their extensive ambient NO₂ monitoring database referred to above.

In summary, given the proximity of this proposed SWSA Redevelopment program to a residential community pre-designated as an environmental justice area, and the compelling health effects data associated with human exposure to motor vehicle exhaust, we believe that a more rigorous environmental health assessment of motor vehicle emissions from this proposed program needs to be conducted.

Thank you for considering our comments. Please feel free to contact us if you have any questions at 617-624-5757.

Sincerely,



Suzanne K. Condon, Associate Commissioner
Director, Bureau of Environmental Health

duration distribution (length of time parked before start and number of engine starts, by mileage accumulation rates and hour of day) were used. These input parameters approximate the designation of 43 percent of vehicle starts are "cold starts" - a reasonable assumption for a consolidated rental car facility, given that some vehicles will remain parked overnight or in staging areas, and some will be operated, rented and/or moved with greater frequency.

A related technical question from the reviewing agencies about the actual MOBILE6.2 "cold start" emission factors was referred to U.S. EPA and DEP before the SWSA air quality analysis was undertaken and no changes to the model input parameters or emission factors were recommended, and thus none were made.

S-002-006

As described in Chapter 4, *Air Quality and Noise*, for this assessment, emission factors were specified from MOBILE6.2 using DEP-recommended input parameters reflecting Massachusetts-specific motor vehicle fleet mix characteristics, ambient temperatures, vehicle registration distributions, and emission control strategies. For "cold start" emission factors, standardized MOBILE6.2 parameters (e.g. soak duration distribution (length of time parked before start and number of engine starts, by mileage accumulation rates and hour of day) were used. These input parameters approximate the designation of 43 percent of vehicle starts are "cold starts" - a reasonable assumption for a combination airport long-term parking garage and consolidated rental car facility, given that some vehicles will remain parked overnight or in a staging area and some will be operated, rented and/or moved with greater frequency.

A related technical question from the reviewing agencies about the actual MOBILE6.2 "cold start" emission factors was referred to U.S. EPA and DEP before the SWSA air quality analysis was undertaken

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and no changes to the model input parameters or emission factors were recommended, and thus none were made.

The dispersion modeling analysis was also based upon actual meteorological data from the airport area. This meteorological data reflects the annual variations in wind speed, wind direction, temperatures, atmospheric mixing height etc.

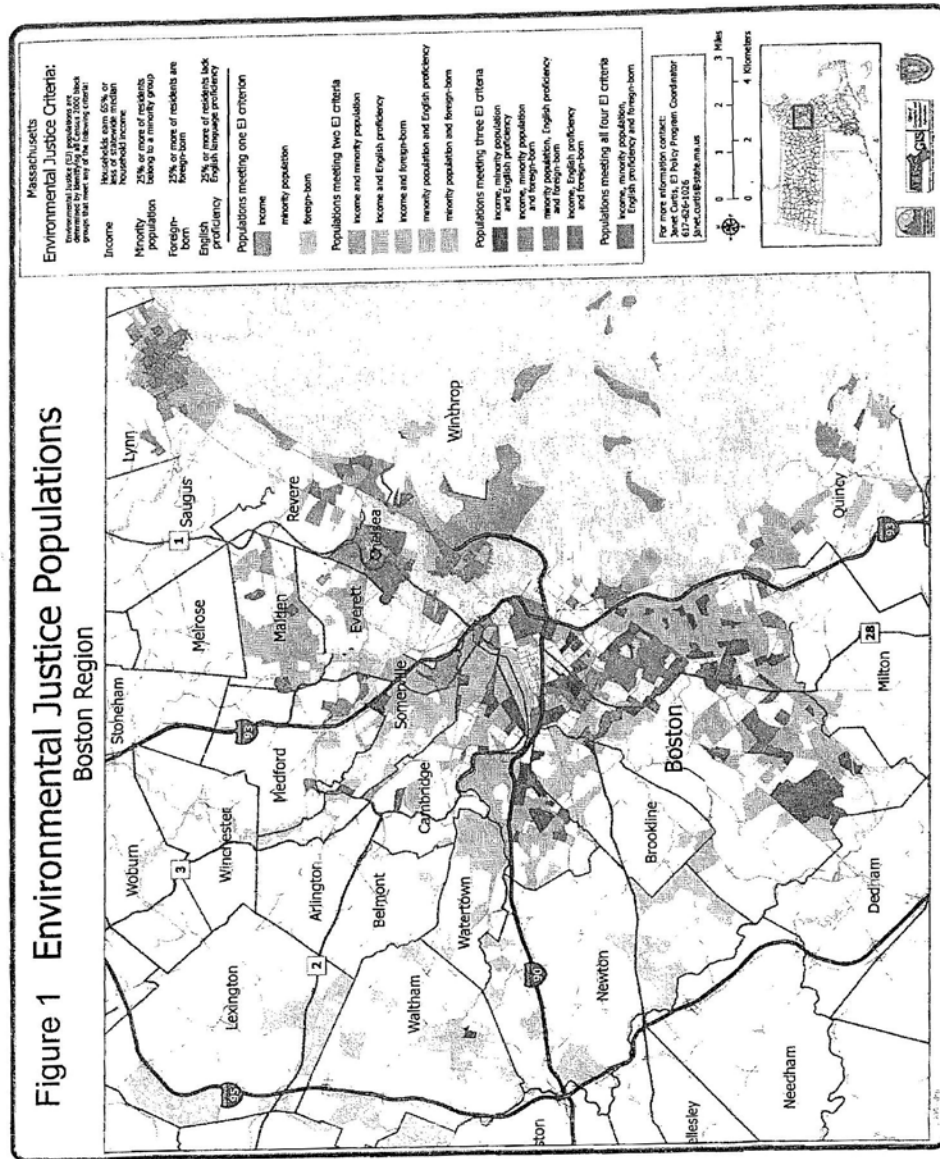
S-002-007

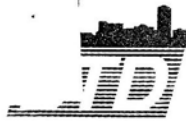
As presented in Chapter 4, *Air Quality and Noise*, the dispersion modeling of motor vehicle emissions focused on carbon monoxide (CO) and particulate matter (PM), including respirable particulate matter (PM10) and fine particulate matter (PM2.5).

Tonne T, Melly S, Mittleman M, Coull B, Goldberg R, Schwartz J. 2007. A case-control analysis of exposure to traffic and acute myocardial infarction. *Environmental Health Perspectives* 115(1):53-57.

US EPA. 2005. Review of the National Ambient Air Quality Standards for Particulate Matter: Policy Assessment of Scientific and Technical Information, OAQPS Staff Paper. EPA-452/R-05-005a. December 2005.

Figure 1 Environmental Justice Populations
Boston Region





BOSTON
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Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs
ATTN: MEPA Office, Anne Canaday
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

September 1, 2008

RECEIVED

SEP 2 2008

MASS EPA

Re: Draft Environmental Impact Report/Environmental Assessment (EA) for the Southwest Service Area
Redevelopment Program (SWSA) at Boston-Logan International Airport. (Ref: EEA No. 14137)

Dear Ms. Canaday,

The Boston Transportation Department (BTD) has reviewed the document listed above and is pleased to provide you with our following comments.

The purpose of the proposed Southwest Service Area Improvement Project is to:

- 1) Better serve the traveling public and rental car companies.
- 2) Reduce ground transportation and air quality impacts on the airport and surrounding neighborhoods.
- 3) Reduce associated off-airport impacts.

Major components of the project will entail:

- 1) Consolidate rental car facilities.
- 2) Provide 3,000 additional Park & fly spaces.
- 3) A common shuttle bus system.
- 4) 270,000 gross square feet of support facilities.
- 5) Reconfigured taxi pool.
- 6) Roadway and intersection improvements.

It is anticipated the SWSA Project would result in many environmental benefits that would include:

- 1) Reduced impact of rental car operations on the East Boston Community.
- 2) An improved efficiency for ground transportation.
- 3) Improved customer service.
- 4) Reduced motor vehicle emissions.

THOMAS M. MENINO, Mayor
Thomas J. Tinlin, Commissioner



- 5) Completion of the Southwest Service Area.
- 6) Incorporation of sustainable design elements in the building construction and operations.
- 7) Improved level of service on-and-off roadway intersections.
- 8) Improved public transit, pedestrian and bicycle accommodations for airport users, employees and neighborhood residents.

SWSA Redevelopment Program

The SWSA Redevelopment Program will involve the replacement of and upgrades to the existing uses. The redevelopment will include:

- 1) Construction of a five-level, 2.8 million gross square foot garage, which includes consolidated rental car facilities and up to 3,000 commercial parking spaces.
- 2) In addition, approximately 270,000 gross square feet of support facilities for car rental operations and quick turnaround areas, a common bus system, a reconfigured Taxi Pool.
- 3) The proposed SWSA will require the relocation of the bus and limousine functions to the Northwest Service Area (NWSA).
- 4) The SWSA Project will implement improved environmental management, provide landscaped buffers, including the continuation of the Logan Airport Edge-Buffer Program that will reduce noise and improve air quality for adjacent neighborhoods. Phase 1 of the Airport Buffer Program has been completed.
- 5) Phase 2 of the SWSA will be integrated with the with the redevelopment of the SWSA with a combination of landscaping or solid barriers such as fences and walls. According to the Massachusetts Port Authority (Massport)

The proposed program also is consistent with the Department of Environmental Protection (DEP) Logan Parking Freeze regulation, which encourages the relocation of rental car spaces from the East Boston freeze area to the Logan freeze area as described under Section (310 CMR7.30). An additional benefit of the program will provide a common shuttle bus system for both rental car and commercial parking customers, instead of several at-grade parking areas. Not only is this more convenient for customers, it also cuts into the level of Vehicles Miles Traveled (VMT) at the airport.

Purpose and Need Statement

Currently, eight rental car agencies serve Logan Airport. Six companies (Hertz, Avis, Budget, Alamo, Dollar and National) are currently located on-airport in the SWSA. Two rental car agencies (Enterprise and Thrifty) operate on Route 1a in East Boston and Revere. Both companies are expected to relocate on airport in the near future.

B-001-001

While it is clearly understood that all the current rental car companies serving Logan Airport will eventually be housed on Logan Airport property, the question remains, **what type of use will replace the rental car move onto Logan Airport?**

If another car rental company or similar airport related use moves into these vacated spaces on Route 1A then the actual environmental impacts will increase. Vehicular movements will increase as will air quality impacts. It is important to remember that the City of Revere does not recognize the East Boston/Logan Parking Freeze. Therefore any kind of land use control on the Revere

B-001-001

As discussed in Chapter 3, *Surface Transportation*, all rental car customer service functions will be relocated to the new ConRAC facility so individual shuttle buses will no longer need to travel to the existing off-airport rental car company locations to pick up customers; therefore, reducing vehicle trips within the overall traffic study area under future Build Conditions compared to the future No-Build/No-Action Conditions.

The existing off-airport rental car properties are privately owned and Massport does not control the future use of those properties. The rental car companies have reported that they expect to retain these properties off-airport to be used for rental car fleet storage and maintenance, as needed.

Property simply does not exist. I would also like to add that the City of Chelsea also refuses to abide by the Logan Parking Freeze, so special care must be taken into account when the issue of environmental benefits are discussed in reference to this DEIR/EA for the Southwest Service Area.

Public Address System (PA)

- B-001-002** Although this may appear as a mundane and simplistic issue, I can assure you it is not. For many years well intended but out-of-control employees have disturbed many residents living close to the car rental facilities with extremely loud communications via speakers located on the exterior of the buildings. This particular impact increases dramatically during the sensitive hours of the evening, especially when people are trying to sleep. I strongly urge this issue be addressed during this environmental process.

Signage

- B-001-003** Unless an accurate and clearly defined signage program is placed in critical locations providing directions to and from the SWSA, Vehicle Miles Traveled (VMT) will not meet their goals and objectives in relationship to the project. All through the airport's long history, signage has been poor and has caused countless wasted miles for drivers simply to arrive at their desired location.

Recommended Alternative

BTD agrees with Massport with their selection of the Preferred Alternative. The combination of the rental Car facilities and Commercial parking into one five-level structure works well from both an operational and environmental perspective. The space made available for rental car service would increase substantially and Commercial parking would be located on two levels and would share the common shuttle bus system.

- B-001-004** However, BTD would like to work with Massport regarding future plans on the former Robie Airport Park section of Logan located between Prescott and Frankfort Streets. Although small portions City of Boston property does section off portion of this land such as Lovell Street and Neptune Road, there is a tremendous amount of developable property that could be used for a similar purpose such as the SWSA. The amount of land available rivals that of the SWSA the major issue here is simply what are Massport's plans for this property? Should Massport plan to expand their terminal gate area from the American Airlines hanger area for cargo and terminal gate use, than the point is moot and the SWSA will in fact be the only site available for both car rental and park and fly use. However, BTD believes this option should receive a certain level of attention due to its reduced impact on nearby neighborhoods.

Key findings and benefits of SWSA.

BTD is extremely interested in the final design for the Enhanced pedestrian and bicycle path connections for the community to Memorial Park as well as the Airport MBTA Station and airport facilities. We hope all the details will be carried forward during Phase 2 of the SWSA Landscape Buffer.

An additional important component of the SWSA is the relocation of the Limousine and Bus pools to the North Service Area. Although it may appear to most people the original plan for the Northwest Service Area will require minor changes from its original design. However, access and egress to the site will experience dramatic changes.

B-001-002

As discussed in Chapter 6, *Beneficial Measures/Section 61 Findings*, under the future Build Conditions, there would be no loudspeaker announcements at the new QTAs.

B-001-003

As discussed in Chapter 3, *Surface Transportation*, a comprehensive system of highway, wayfinding and pedestrian signage will be developed and implemented as part of the final design of the SWSA Redevelopment Program. Signage will be implemented within the SWSA, on-airport and regionally to convey new or modified access routes. An interim signage plan will also be developed for the construction period to address affected access routes. Applicable construction truck routing will be enforced through a construction management plan, as discussed in Chapter 6, *Construction*.

B-001-004

As discussed in Chapter 1, *Proposed SWSA Redevelopment Program*, the Robie Parcel is not a viable site alternative for the Program because:

- It is not adequate in size or location to accommodate the current and future rental car needs at Logan Airport;
- It is not in close proximity to key airport roadways;
- It would likely result in increased vehicle-miles-traveled in connection with rental car operations;
- The parcel is reserved for future aviation activity (not determined at this time); and
- Any future use of this parcel should be compatible with long-term adjacent airside activities.

B-001-005 Due to the dramatic change regarding the increase in the number of limousines and buses gaining access and egress to the Northwest Service Parking site, BTD will require a complete set of new drawings depicting how this new operational program will impact Neptune Road and the potential Greenway plan.

Pedestrian and Bicycle Facilities.

One of the most important components of the SWSA is the link from the neighborhood to East Boston Stadium. Over the past several years design changes have occurred that concerns local residents since many children and elderly residents will take advantage of the wonderful opportunity to gain access to the park via Venice Street. Careful planning in the overall design will be essential to ensure public safety since there will be vehicular use of this space in concert with the general public access to the park. Massport must employ strict traffic controls with both signage and State Police presence to make it clear to all airport users that the general public will be using this space as well as airport related use.

Subsequent occupancy of Consolidated Rental Car Facility (ConRAC).

B-001-006 BTD is very concerned of what activity will replace the area vacated by the vehicles currently using the car rental and park & fly spaces within and around Logan Airport. While it is clear Massport has no control outside of the East Boston /Logan Airport Parking freeze area, we believe Massport should initiate a dialogue with the companies it now does business with but does not control, and with those located on its property in an attempt to replace current vehicular use with airport related uses that would be more neighborhood friendly and less environmentally harmful.

Proposed Conditions Phase2-Full Build.

Many of the words printed on in Figures 2.1 to 2.4 are very difficult to read. They are very small and extremely dull to the naked eye. However, with the power of a magnifying glass I was able to see just how close Hotel Drive Extension and Airport Service Road actually are. (Just a minor note, Extension is spelled wrong on through Figures 2.1 to 2.4).

B-001-007 Should Hotel Drive Extension and the Airport Service Road remain in the final plan, the City of Boston will watch with extreme care at the level of detail the agency will apply regarding the issue of Noise attenuation. Especially from Lamson Street to Geneva Street, it will absolutely essential that Massport design a very effective sound proofing design to project abutters that will be living next to this project 24 hours a day 7 days a week.

Light pollution

B-001-008 The size and scope of this project will produce a tremendous amount of light pollution. Massport must carefully plan a light mitigation program that will prevent excessive light spillage from impacting its immediate neighbors. This program must not only include stationary lights, but those that flash of and on due to FAA requirements. This would be especially true if a rotating beacon should be placed with the environs of the project.

B-001-005

Chapter 6, *Construction* contains an analysis of the potential impacts related to the temporary relocation of the Bus/Limousine Pool within the North Service Area and potential impacts on Frankfort Street and Neptune Road. The proposed traffic signal system at the Frankfort Street and Lovell Road intersection is a permanent proposed improvement and will be beneficial to the East Boston Greenway plan through providing a safe, controlled pedestrian crossing of Frankfort Street.

B-001-006

As discussed in Chapter 3, *Surface Transportation*, all rental car customer service functions will be relocated to the new ConRAC facility so individual shuttle buses will no longer need to travel to the existing off-airport rental car company locations to pick up customers; therefore, reducing vehicle trips within the overall traffic study area under future Build Conditions compared to the future No-Build/No-Action Conditions.

The existing off-airport rental car properties are privately owned and Massport does not control the future use of those properties. The rental car companies have reported that they expect to retain these properties off-airport to be used for rental car fleet storage and maintenance, as needed.

B-001-007

As summarized in Chapter 4, *Air Quality and Noise*, several noise abatement measures are proposed as part of the Program to benefit the residences between Lamson Street and Geneva Street. These measures include, but are not limited to, site noise attenuation measures (solid walls/fences at property line), exterior facade treatment of the southern and western sides of the Garage Structure (those sides that face the community), screening of the Garage Structure vehicle ramps, a berm along Geneva Street as well as elimination of loudspeaker

Transportation and Parking

The SWSA Redevelopment Program represents one of the largest projects Massport has ever undertaken. While this may not alarm most people accustomed to Logan expansion or modernization, abutters to the project are extremely concerned about the number of vehicles that will utilize the SWSA, the location of where the vehicles will be parked as well as the roadway system that will be designed for the project. From a regional point of view, it is clear that air quality will improve. However, it is the proximity of the project to thickly settled neighborhood that has many residents concerned.

B-001-009 Although remaining within the requirements of the Logan Airport/East Boston Parking Freeze, BTD wants to be clear as to the exact location within the SWSA of the existing designated, overflow and economy parking spaces.

B-001-010 It is important to understand, that the SWSA will consolidate all the car rental companies into one organized space within the environs of Logan Airport. However, if off-site car movements that involve maintenance or repairs remain in place off airport property, then the SWSA project could result in a project that could have the most negative air quality impacts for East Boston Residents in the history of Logan Airport.

B-001-011 The SWSA must be analyzed from two perspectives, one, from a regional point of view and secondly, from a close-in neighborhood perspective.

Transportation Management Association (TMA)

B-001-012 BTD believes that the car rental companies serving Logan Airport should be members of Logan's TMA Program. We believe there involvement in Logan's TMA would help them understand their impact on the community and ways to help mitigate specific impacts directly related to car rental operations.

Construction Truck Route/Worker parking in the neighborhood

B-001-013 BTD has reviewed the SWSA truck access route and is pleased to read there will not be any traffic related to the project on the streets of East Boston. However, there remains an important issue pertaining to the construction of the SWSA that must be addressed. That is the issue of construction worker parking in East Boston. BTD will strictly enforce resident parking in the general area. In addition to our enforcement programs, we would like to request that Massport develop strict rules that would augment our responsibilities to ensure there will not be any problems that many residents are already concerned about.

BTD would like to suggest the following issues for consideration:

- 1) Establish a complaint phone number to address any concerns a resident may have.
- 2) Appoint an individual to contact in case of any property damage due to construction.
- 3) Massport should inspect all abutting property prior to start-up of construction to prevent any false claims
- 4) A Massport representative should attend monthly Jeffries Point neighborhood meetings to discuss any important issues such as maintaining consistency with National Environmental Policy Act (NEPA) or any other complaints directly related to the SWSA Project.

announcements, improved drying blowers and enclosed vacuum compressors at the QTAs.

B-001-008

As discussed in Chapter 7, *Beneficial Measures/Proposed Section 61 Findings*, the proximity of the south façade of the structure to neighborhood activity would require greater attention to light controls. Pole lighting on the roof level and around the exterior site will utilize full-cut off fixtures to eliminate light pollution. Ceiling mounted garage fixtures along with the roof and exterior lighting will utilize effective light distribution and shielding where required, to minimize the light trespass/spill into the adjacent community. Furthermore, façade strategies, such as architectural screening treatment for the Garage Structure, would also be a factor in controlling light trespass/spill. Rotating beacons for aviation obstruction lighting will not be required since the structure is under 200 feet in height (FAA Advisory Circular AC 70/7460 Section 20). However, the fire alarm system will require a red beacon to direct fire responders but this will only be active during an emergency.

B-001-009

As presented in Chapter 1, *Proposed SWSA Redevelopment Program*, the SWSA Redevelopment Program has been revised to exclude the commercial parking component within the Garage Structure. The current program retains and relocates within the SWSA some of the long-term overflow commercial surface parking (east of Jeffries Street).

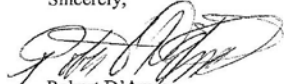
Finally, the SWSA presents somewhat of a dichotomy for neighborhood residents, especially for abutters. On one hand, for close to 40 years residents were forced to look at a 40 foot high cement wall only 10 feet away from their property separated by a barbed wire fence. The lack of air flow and open space resulted in a very depressing and unhealthy environment. Several residents actually sold their homes to Massport just to remove themselves from an area where they found it impossible to live in peace or just to come home after a hard days work and relax. (Currently, nine (9) homes remain on Maverick Street abutting the SWSA Project area.

Sadly, the numbers of residents that remain in the nine abutting homes between Lamson Street and Venice Street (Massport labels Venice Street as Wellington Street) that were alive all those years ago have declined. However, those that remain (Some actually still live in the homes they were born in) retain their zeal for what they believe in and will vigorously fight for what they feel they deserve after all the years they were forced to live in a very depressing environment.

BTD strongly supports these very special people who lived in a different time when it took a lot of courage to fight authority and stand up for what you truly believed in. Knowing all the details and the limitations involved the SWSA, we stand behind them when all they are asking for is that Massport work hard to design a SWSA that will be beautiful and for the first time give these residents something to enjoy and be proud of.

Over the last four (4) decades of living with substantial noise and air quality impacts, BTD strongly requests that we all work together to produce SWSA Program that will not only give these residents a beautiful buffer project, but more importantly, give them something that will make them happy to come home to.

Sincerely,



Robert D'Amico
Senior Planner

BOSTON TRANSPORTATION DEPARTMENT
ONE CITY HALL PLAZA/ROOM 721, BOSTON, MA 02201 • (617) 635-4680

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B-001-010

As discussed in Chapter 3, *Surface Transportation*, all rental car customer service functions will be relocated to the new ConRAC facility so individual shuttle buses will no longer need to travel to the existing off-airport rental car company locations to pick up customers; therefore, reducing vehicle trips within the overall traffic study area under future Build Conditions compared to the future No-Build/No-Action Conditions.

The existing off-airport rental car properties are privately owned and Massport does not control the future use of those properties. The rental car companies have reported that they expect to retain these properties off-airport to be used for rental car fleet storage and maintenance, as needed.

B-001-011

The regional impacts (including East Boston and Revere) of car shuttling were evaluated in the June 2008 Draft EIR/EA. Car shuttling to off-airport locations by the RAC's will continue for overflow storage and heavy maintenance purposes even with the construction of a consolidated on-airport facility. However, the increased storage and ready areas to be provided by the consolidated facility will allow the RACs the ability manage their day-to-day operations on-airport. That on-airport management of the rental fleets will result in a reduction of car shuttling activity, VMT and air quality impacts from existing levels, all of which are assumed as part of the traffic analysis presented in Chapter 3, *Surface Transportation*.

B-001-012

As presented in Chapter 7, *Beneficial Measures/Proposed Section 61 Findings*, Massport will require each car rental company participate in the Logan TMA as part of the Program.

B-001-013

Massport appreciates these suggestions and will consider implementing these measures as design proceeds.

Jeffries Point Neighborhood Association
C/o Ms. Karen M. Maddalena Co-chair
4 Lamson Street
East Boston, MA 02128
617-567-6446

September 22, 2008

Mr. Ian Bowles
Secretary of Energy and Environment
Executive Office of Energy and Environment
100 Cambridge Street Suite 900
Boston, MA 02114
ATT: Ann Canady, MEPA Unit
Tele # 617-626-1000 Fax#617-626-1181

Dear Secretary Bowles:

At the September meeting of the Jeffries Point Neighborhood Association the membership voted to oppose the consolidated rental car commercial parking project at Logan Airport. The Southeast Service Area of the airport is on Maverick Street in Jeffries Point. It is immediately adjacent to a thickly, settled, residential neighborhood.

There would be 9000 cars using this parking facility. These cars would emit pollution into the air when starting and moving in, out and around the complex. The fumes with their small particulates are easily breathed into the lungs of residents living right beside and across the street from the "rack". The pollutants from this garage would be in addition to existing air pollution already floating into the neighborhood from ground operations, taxing aircraft, arrivals and departures of planes using the six runways and several taxiways at Logan

O-001-001

The "conrack" is not an enclosed facility. Open sides more easily allow the pollutants to enter the community, than they would from an enclosed garage. Although, an enclosed garage would be more expensive and would require a blower system to disperse the pollutants, it would be a better design.

O-001-002

With more effort the Port Authority could find other ways to site this facility. An example could be adding the commercial spaces to existing garages in the middle of the airport. The rental cars could be located in another area of the airport farther away from residential areas. Creative planners and architects could provide a different approach to this consolidation.

O-001-003

From our laypersons reading of the environmental analysis not enough information has been presented about the impacts of the smallest particulate matter. More research and information about the harmful effects of those pollutants need to be provided to the community.

O-001-004

An alternative site planning process should be done by the Port Authority. Such a process should involve community participation by the people impacted by the proposal. Also, scientific experts should be provided to the community by the Port Authority to interpret the scientific studies and impacts of the proposal.

It is indeed ironic that this largest proposal by the Port Authority is located on Maverick Street the site of the first demonstration against airport expansion and impacts back in September, 1968. That demonstration was intense effective and documented by the media. It resulted in a

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MEPA

O-001-001

As described in Chapter 4, *Air Quality and Noise*, the micro-scale dispersion analysis did not reveal any violations of the ambient air quality standards for carbon monoxide (CO) or particulate matter larger than 10 or 2.5 microns (PM10/2.5) in diameter. Refer to Chapter 4 for consideration of enclosing and partially enclosing the Garage Structure.

O-001-002

Chapter 1, *Proposed SWSA Redevelopment Program* discusses the alternative sites evaluated previously for the Program. Consistent with the Purpose and Need, the SWSA was identified as the preferred site for a consolidated rental car facility because it is the only on-airport parcel, compared to the other sites evaluated, that:

- Is large enough to efficiently and adequately accommodate the long-term transportation, parking and access demand for rental car operations based on current and future air passenger growth at Logan Airport, which requires at minimum of over 45 acres to accommodate the anticipated rental car demands in a limited height Garage Structure. (The NSA is only approximately 9.5 acres total and the Robie Parcel is only approximately 7.6 acres total – both of which are programmed for other airport-related operations/uses.)
- Would make efficient use of available on-airport land;
- Would make efficient use of access to main airport circulation roadways, terminals and the regional highway network providing excellent ground access;
- Would utilize existing airport ground transportation infrastructure;
- Would follow sustainable/LEED criteria through the ability to facilitate pedestrian, bicycle and transit accessibility by locating the facility within walking distance to public transportation; and

partnership between the political leadership and the community which worked successfully when the political leadership listened to and respected the community perspective.

The Jeffries Point Neighborhood hopes that the current political leaders are open to and respectful of the community ideas and positions.

Sincerely,



Karen M. Maddalena Co-chair

- Would provide environmental benefits (e.g., improved air quality through reduced vehicle-miles-traveled).

O-001-003

As discussed in Chapter 4, *Air Quality and Noise*, both "respirable" particulate matter (PM10) and "fine" particulate matter (PM2.5) were modeled as part of the DEIR and the results reveal no violations of the NAAQS for these pollutants. As there is presently no State or Federal Ambient Air Quality Standard (AAQS) for ultra-fine particulate matter (PM0.1) nor any EPA-recommended modeling methods for these pollutants, they were not directly assessed. However, because PM0.1 and PM10/PM2.5 have some distinct similarities in terms of their origins and transport, similar trends would be expected for the ultra-fine particles.

O-001-004

See response to comment O-001-002 above.

GOVE STREET CITIZENS ASSOCIATION
123 Cottage Street
East Boston, MA 02128

Ida LaMattina
President

September 17, 2008

Secretary Ian A. Bowles
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Richard Bourre, Acting MEPA Director
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Subject: DEIR/EA for SWSA Project at Logan Airport – EEA 14137

Dear Secretary Bowles and Acting Director Bourre:

The Gove Street Citizens Association fully supports the proposed ConRAC facility at Logan Airport as described in the Southwest Service Area Redevelopment Program DEIR/EA, EEA No. 14137. We agree that the proposed project has the potential to reduce current levels of noise and air pollution associated with the existing scattered site rental car operations, both on and off airport. We believe that the proposed series of local neighborhood improvements associated with the ConRAC project, including new landscaping, airport edge buffering, pedestrian and bicycle paths would enhance the quality of life in our neighborhood. We support the proposed relocated taxi/limo pool to replace the existing noisy Avis rental car operation.

We endorse the ConRAC project as being fully responsive to the DEP Logan Parking Freeze regulation, 310 CMR 7.30, which became law two decades ago and is the regulatory basis for transferring Logan related rental car operations from East Boston onto the airport. This community sponsored environmental initiative was intended to reduce local neighborhood traffic congestion and pollution associated with the East Boston based rental car operations. An excerpt of this important environmental regulation is attached.

We have some specific recommendations and comments for optimizing the benefits of the ConRAC project on our neighborhood:

O-002-001

1. We strongly advocate the development of a botanical garden in the large Massport lot located between Geneva Street and the airport service road (opposite the existing overflow commercial parking lot). Such a garden would be a major addition to the edge buffer proposed for the area.

O-002-002

2. We support the concept of noise barriers to reduce Quick Turnaround Area (QTA) associated noise. However the descriptions of barrier heights in Chapter Six appear to be ambiguous. The chapter text implies a Wellington Street barrier height of 8 feet while Figure 6.3 indicates a 6 foot wall adjacent to Wellington Street which would be most relevant to our neighborhood. We support the highest feasible QTA barrier for optimizing noise attenuation.
3. Our support for the ConRAC proposal is based in large part on the project's significant air quality improvements for our neighborhood, due mainly to the 50% percent reduction in rental car company buses and subsequent

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O-002-001

As discussed in Chapter 1, *Proposed SWSA Redevelopment Program*, concepts for the design of this area currently under consideration include planting a collection of trees, shrubs and perennials that are native to coastal New England with interpretive plaques that would provide details about the plants and their native habitat.

O-002-002

The performance criteria includes walls to be in the range of six to eight feet high as such heights provide noise reduction benefits while minimizing the visual intrusiveness of the walls. Final design of the walls/fences in the buffer areas will be developed more fully during final design.

Vehicle Miles Traveled (VMT's) on the airport roadway network, and also the replacement of the existing diesel buses with more environmentally compatible fuels such as CNG. We expect that EOEa will mandate these project objectives.

O-002-003

We note that there has been some discussion of the "cold-start effect" associated with motor vehicle emission levels predicted for the ConRAC project. While we were initially concerned regarding the predicted increased levels of pollutants from advanced-technology light-duty vehicle cold starts (as much as 100% by 2030 according to one estimate) we are relieved to learn of the EPA's swift and decisive action to remediate this condition. Specifically the EPA has recently adopted a new 20 degree Fahrenheit emissions standard for VOC's which will be phased-in beginning in 2010. According to the EPA these new cold-start emission restrictions will reduce the earlier predicted emission increases by over 30% with the largest improvements occurring in those areas where cold-start events are the highest, such as Boston.

O-002-004

4. We recommend the following policies and procedures to enhance ConRAC's air quality environment:

- a. Massport should optimize the facility's capacity to accommodate hybrid and electric plug-in vehicles.
- b. ConRAC should incorporate a ticket payment system similar to that of the Post Office Square Garage in Boston in which parking tickets are paid prior to vehicle start so that exit queuing is minimized.
- c. ConRAC should require that hybrid vehicles exit the facility utilizing battery power.

O-002-005

- d. The Phase I designation of ConRAC's commercial parking as longer-term, longer than 24 hours, should be extended to Phase II (Page 4-27).

O-002-006

5. We recommend that Massport adopt a neighborhood tree planting program to complement the excellent ConRAC facility landscaping plan illustrated in Figure 3.4. We recommend that the eligible tree planting area be defined by the East Boston Greenway, Memorial Park, Wellington Street, Maverick Street, Jeffries Street, Webster Street and Marginal Street as illustrated in Figure 3.1.

We look forward to working with Massport on a continuing basis to assure that the ConRAC proposal achieves its potential for enhancing the quality of life of our neighborhood.

Sincerely,



Ida LaMattina
President

O-002-003

Thank you for your comment.

O-002-004

As discussed in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, the current design guidelines for the Garage Structure include the infrastructure necessary to accommodate future demands for electric plug-in stations and other alternative fuels, such as E-85. This will continue to be considered through final design. Also, as an added incentive for customers to rent low-emitting vehicles, Massport will encourage the RACs to designate spaces for environmentally-preferred vehicles (hybrids, low-emitting and/or clean fueled) that are conveniently located near the pedestrian circulation cores.

While the commercial parking element of the Garage Structure has been removed (presented in the 2009 NPC), as discussed in Chapter 3, *Surface Transportation*, Massport will include Intelligent Transportation Systems (ITS) elements as part of the Unified Bus System in order to increase its efficiency. Also, as previously proposed, wayfinding and signage will be incorporated into the site design so that rental car customers are able to move throughout the site efficiently.

O-002-005

As discussed in the 2009 NPC, the commercial parking element (3,000 spaces) has been removed from the Program. As discussed in Chapter 1, *Proposed SWSA Redevelopment Program*, some of the existing long-term overflow commercial parking spaces will be retained within the SWSA.

7 30: continued

(6) Rental Motor Vehicle Parking

- (a) Massport shall work with BAPCC to develop and implement a plan to relocate rental motor vehicle parking spaces identified in the East Boston Parking Freeze Area, described by 310 CMR 7.31(1), to the Logan Airport Freeze Area. Relocation of the rental motor vehicle parking spaces shall be in accordance with the plan described in 310 CMR 7.31(4).
- (b) Once parking space relocations have been scheduled for implementation, Massport shall submit an application to BAPCC, in accordance with procedures referenced at 310 CMR 7.31(5) to reduce permanently the East Boston Parking Freeze Area inventory by the number of parking spaces scheduled to be relocated to the Logan Airport Parking Freeze Area.

(7) Restricted Use Parking

- (a) The category of restricted use parking spaces is created with the understanding that Massport experiences, at several times during the year, extreme peaks of air travel and corresponding demand for parking spaces. Restricted use parking spaces may be made available for use only at such times, on the conditions in 310 CMR 7.30.
- (b) Massport shall limit the use of restricted use parking spaces, defined at 310 CMR 7.00 to ten days in any calendar year. If this limitation is projected to be exceeded and/or in fact is exceeded in any given calendar year, then the requirements and procedures described 310 CMR 7.30(7)(e) and (f) shall apply.
- (c) Restricted use parking spaces may be located within the Logan Airport Parking Freeze Area, but shall not be located in the East Boston Parking Freeze Area or any other geographic area subject to a parking freeze.
- (d) The category of restricted use parking spaces shall be subject to the following monitoring and reporting provisions:
 - 1. On December 31 of each calendar year Massport shall submit to the Department a letter containing an estimate of the number of days and the dates on which Massport anticipates the need over the following calendar year to invoke the use of restricted use parking spaces, including the estimated number and location of said spaces.
 - 2. Massport shall monitor and track the use of these spaces continuously throughout the year and on March 1 of the following year shall submit a report to the Department describing the actual dates, locations and numbers of restricted use parking spaces used in the preceding calendar year.
- (e) Should the actual number of days when restricted use parking is invoked by Massport exceed six by July 1 of any year, Massport shall submit to the Department, on or before August 1, a report outlining strategies Massport commits to undertake during the remainder of the calendar year so as not to have to invoke the use of the restricted use parking spaces more than four additional days that calendar year.
- (f) Should Massport invoke the use of restricted use parking spaces for more than ten days during the calendar year, Massport shall submit to the Department, on or before March 1 of the following year, a report containing:
 - 1. An explanation of why the ten day limit on use of restricted use parking spaces was exceeded.
 - 2. A determination of whether this exceedance was temporary or may be expected to continue into future years and technical support for this determination.
 - 3. A projection of future need to use restricted use parking spaces in terms of number of days and number of spaces, and an analysis of the air quality impacts of the projected use of the restricted use parking spaces.
 - 4. A plan and schedule for initiating actions which will eliminate the projected need identified in 310 CMR 7.30(3).
 - 5. A commitment from Massport to implement the actions identified in 310 CMR 7.30(7)(f)4.

O-002-006

As part of the Program, Massport will provide enhanced landscaping, including trees and will maintain the Airport Edge Buffer areas as well as site landscaping.

7.30: continued

(8) Transportation Management Studies and Programs.

(a) To discourage the use of private passenger motor vehicles to access Logan Airport:

1. The Boston MPO, in conjunction with other appropriate local and state agencies, shall conduct a study of private passenger motor vehicle travel patterns of, at a minimum, employees, travellers, and visitors to and from Logan Airport in the corridor north of the East Boston Parking Freeze Area, as defined in 310 CMR 7.31(1). Based on the results of this study, the Boston MPO shall develop a corridor traffic management plan, which shall include to the extent appropriate, a parking freeze component. The Boston MPO shall submit a copy of the study by November 24, 1990, along with a written determination and schedule of its intent to adopt the study recommendation(s) as part of the Boston Region Transportation Element of the State Implementation Plan.

2. Massport shall conduct a study of costs and pricing for different modes of transportation to and from Logan Airport to identify a pricing structure and the use of revenues so generated to promote the use of high occupancy modes of transportation by Airport air travellers and visitors. This study shall be completed by November 24, 1990. Upon completion, Massport shall submit the study to the Boston MPO, with a copy to the Department, along with a determination regarding the need to revise 310 CMR 7.30 in light of the results and, if such a revision is appropriate, a schedule to effectuate that change.

(b) Massport shall commit to making all reasonable efforts to identify, analyze, implement and communicate to the public transportation management programs including but not limited to:

1. Maintain and improve current transportation management programs of: remote parking/Express Bus service from the West and the South Shore; infrastructure and leasing arrangements for the water shuttle service to and from Logan Airport; the one way toll program; and the commercial vehicle lane at Logan Airport.

2. Identify additional suitable site(s) and implementation of additional remote parking/express bus service(s).

3. Identify and study the feasibility and impact on transportation and air quality parameters of additional transportation management programs and ground access improvement projects.

(c) Massport shall report annually the status of studies, findings and commitments to implement in accordance with 310 CMR 7.30(9).

(9) Recordkeeping and Reporting. On or before March 1 of each year Massport shall submit a report detailing the progress and status of each provision of 310 CMR 7.30, in its entirety, during the preceding calendar year. Copies of said report shall be submitted to the Department, EPA, the Chairman of the Boston MPO, and the BAPCC.

(10) Enforcement. The Commissioner will enforce 310 CMR 7.30 under applicable law.

7.31: MB City of Boston/East Boston Parking Freeze

(1) Applicability

(a) 310 CMR 7.31 in its entirety is applicable to the City of Boston through the authority of the Boston Air Pollution Control Commission; the entity within the City of Boston Department of the Environment which through regulations and procedures adopted under authority vested in said Commission by M.G.L., c. 111, § 31C, and hereafter referred to as BAPCC, is responsible for administering local air pollution control programs including parking freezes within the geographic and political boundaries of the City of Boston.

7 31: continued

(b) 310 CMR 7 31 in its entirety applies to the parking of motor vehicles in the area of East Boston, geographically described as follows and hereafter referred to as the East Boston Parking Freeze Area. This geographic area, as shown on a map approved and held by the Department, shall be bounded as follows:

Beginning at the point where Waldemar Avenue meets Walley Street and continuing in a westerly direction along Waldemar Avenue to the William McClellan Highway and continuing in a northwesterly direction in a straight line to the Chelsea River; then southwesterly along the high water line of the River to the Boston Inner Harbor; then continuing generally southeasterly along the high water line of the Harbor to the Logan Airport boundary; then following along the westerly boundary of the Airport, (which in this area runs generally northwesterly along Maverick Street, northeasterly along Geneva Street, and southeasterly, northeasterly, northwesterly around Memorial Stadium) to the Massachusetts Bay Transportation Authority (MBTA) Blue Line right-of-way, just north of the Blue Line Airport Station; then northeasterly along the Blue Line right-of-way to the southerly edge of property known as the Robie Industrial Park; then easterly, northerly and westerly along the boundary of said Park and extending along an imaginary straight line to the MBTA Blue Line right-of-way; then northeasterly along the Blue Line right-of-way to the intersection between the Blue Line right-of-way and the Airport boundary, in the vicinity of the southerly end of Moore Street; then southeasterly along the airport boundary to the high water mark of the harbor; then northeasterly along the high water mark of the Harbor to the Belle Isle Inlet; then generally northerly along the Belle Isle Inlet to Bennington Street in East Boston; then southwesterly along Bennington Street to the intersection with Leverett Avenue; then northwesterly along an imaginary straight line to the point of beginning (the "East Boston Parking Freeze Area")

In the event that property described herein as Robie Industrial Park shall be owned or leased by Massport at some point in the future, then at the time of such purchase or lease, the Robie Park parcel shall become part of the Logan Parking Freeze Area

(c) In the event that any property located within the boundaries of Logan Airport Parking Freeze Area is conveyed in fee by Massport, such property will become part of the East Boston Parking Freeze Area at the time of such conveyance

(2) Definition of the Parking Freeze.

(a) There is hereby established a freeze on the availability of Park and Fly parking spaces within the East Boston Parking Freeze Area. No owner, operator or lessee of Park and Fly parking spaces within the East Boston Parking Freeze Area shall allow for the parking of motor vehicles in excess of the number of Park and Fly parking spaces available for use and/or permitted as of the effective date of 310 CMR 7.00

(b) There is hereby established a freeze on the availability of Rental Motor Vehicle parking spaces. No owner, operator or lessee of Rental Motor Vehicle parking spaces within the East Boston Parking Freeze Area shall allow for the parking of Rental Motor Vehicles in excess of the number of Rental Motor Vehicle parking spaces actively in use as of the date 310 CMR 7 31 is first published in the *Massachusetts Register* (11/24/89)

(c) Parking spaces of types and categories not specifically cited in 310 CMR 7 31(2) are excluded from the provisions of the East Boston Parking Freeze

7 31: continued

- (3) Parking Space Inventory.
 - (a) On or before June 30, 1990, the BAPCC shall submit to the Department an inventory of all Park and Fly and Rental Motor Vehicle parking spaces. Said document shall include a map and supporting descriptive material of sufficient detail to identify the type, location, and quantity of Park and Fly and Rental Motor Vehicle parking spaces located in the East Boston Parking Freeze Area.
 - (b) Within 60 days of receipt of said inventory, the Department, after review and consultation with interested parties, including but not limited to the BAPCC, Chairman of the Boston MPO, Massport and EPA, shall issue a finding of adequacy or inadequacy depending upon the results of the review. If found adequate, the number of spaces by category shall be the Department-certified parking freeze for the East Boston Parking Freeze Area. If found inadequate, the BAPCC, in consultation with the Department and other interested parties, shall have an additional 60 days to resolve the inadequacies, so that the Department may certify a freeze number for the area. If no agreement is reached, the Department shall, at the end of these additional 60 days, issue a number, based on information submitted to-date; said number shall be the Department-certified parking freeze for the East Boston Parking Freeze Area.
 - (c) The number of Park and Fly parking spaces certified by the Department in 310 CMR 7 31(3)(b) shall be the maximum number under 310 CMR 7 30(5) by which the Logan Airport Parking Freeze Area inventory of commercial parking spaces established by 310 CMR 7 30(2)(b), may be increased.
 - (d) Upon the conversion of any park and fly parking spaces under 310 CMR 7 30(5) from the East Boston Freeze Area to commercial parking spaces within the Logan Airport Parking Freeze Area, the number of park and fly parking spaces certified by the Department in 310 CMR 7 31(3)(b) shall be permanently reduced by the number of parking spaces relocated to the Logan Airport Parking Freeze Area.
 - (e) Upon the relocation of any rental motor vehicle parking spaces under 310 CMR 7 30(6) from the East Boston Freeze Area to the Logan Airport Parking Freeze Area, the number of rental motor vehicle parking spaces certified by the Department in 310 CMR 7 31(3)(b) shall be permanently reduced by the number of parking spaces relocated to the Logan Airport Parking Freeze Area.
- (4) Parking Freeze Plan
 - (a) On or before June 30, 1990, BAPCC shall develop and submit to the Department, with copies to the Chairman of the Boston MPO, Massport and EPA, an East Boston Parking Freeze plan, developed in coordination and consultation with the Boston Zoning Commission, the Boston Department of Transportation, Corporation Counsel, the Department, Massport, and the Chairman of the Boston MPO and other city and state authorities as may be appropriate. Said plan shall contain the following:
 1. Authority and responsibilities of City entities supporting the implementation of each of the components of the East Boston Parking Freeze.
 2. The identification of new local ordinances, rules, regulations and policies, or modifications to existing local ordinances, rules, regulations and policies, where needed, to enable the City to implement each of the components of the East Boston Parking Freeze.
 3. A schedule for adopting each of these additions and/or changes identified in 310 CMR 7 31(4)(a)2.
 4. An implementation plan describing the actions to be taken by the City of Boston, Massport, and any other applicable party to enable the relocation of Park and Fly parking spaces from the East Boston Parking Freeze Area to the Logan Airport Parking Freeze Area, described in 310 CMR 7 30(1).
- (5) City of Boston "Procedures and Criteria for Issuance of Parking Freeze Permits".
 - (a) On or before December 31, 1990, BAPCC shall amend the existing "Procedures and Criteria for Issuance of Parking Freeze Permits" required by 40 CFR 52 1135(f), and submit these amendments to the Department for review and approval. Amendments shall incorporate the following additions and modifications:
 1. The East Boston Freeze Area and the Department-certified parking freeze number.



EAST BOSTON
COMMUNITY DEVELOPMENT CORPORATION

September 23, 2008

Secretary Ian A. Bowles
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114



Richard Bourre, Acting MEPA Director
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Subject: Logan Airport SWSA ConRAC Program – EEA No. 14137

Dear Secretary Bowles and Director Bourre:

The East Boston Community Development Corporation supports the Massachusetts Port Authority's consolidated rental car facility (ConRAC) as described in the Logan Airport Southwest Service Area Redevelopment Program DEIR/EA. This project addresses a long standing community objective to relocate rental car facilities out of congested neighborhood streets to the airport in order to provide traffic congestion and air pollution relief by replacing the existing diesel powered rental buses with a much smaller fleet of CNG powered vehicles.

O-003-001

The ConRAC proposal, with its commitment to provide accommodations for new state-of-the-art hybrid plug-in vehicles, would be an asset to the regional economy by indirectly supporting the efforts of local businesses such as A123 Systems, Inc. of Watertown, MA which has been approached by both General Motors Corp. and Chrysler LLC to supply the high tech batteries required by the companies' electric vehicles (see attached WSJ article for details). Furthermore a large technology based facility such as the ConRAC would inevitably have a potentially positive impact on the local East Boston economy with its many technology support businesses.

O-003-001


As discussed in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, the current guidelines for the Garage Structure include the necessary infrastructure such as conduit and electrical capacity to accommodate future demands for electric plug-in stations and other alternative fuel sources such as E-85. This will continue to be evaluated and considered through final design. Additionally, the rental car companies have agreed to continue availability of hybrid and electric plug-in vehicles (contingent upon customer demand and manufacturer availability).



The East Boston CDC strongly favors the quality of life enhancements associated with the ConRAC project in terms of its proposed edge buffer concept, landscaping commitment, and pedestrian and bicycle connections which would significantly improve the ability of many East Boston residents to travel between different neighborhoods without relying on automobiles.

The East Boston CDC looks forward to working cooperatively with Massport in the ConRAC development program to optimize the project's potential benefits for East Boston.

Sincerely,



Albert F. Caldarelli
President

THE WALL STREET JOURNAL.

• WSJ.com

• SEPTEMBER 23, 2008

Chrysler May Use Batteries by A123

By NEAL E. BOUDETTE

Chrysler LLC, in a rush to develop new, fuel-efficient vehicles, is in advanced talks about using batteries made by A123 Systems Inc. in an electric car due to be launched by 2011, people familiar with the matter said.

Chrysler, which now depends on trucks, sport-utility vehicles and minivans for 75% of its sales, is scheduled to demonstrate its battery-powered car for the first time in public Tuesday.

A123, Watertown, Mass., is a seven-year-old company vying to break into the nascent market for lithium-ion battery packs for automobiles. A123 is in the running to supply batteries for the Chevrolet Volt, the electric car General Motors Corp. is developing.

A deal to supply Chrysler would give a boost to A123's business ahead of a planned initial public stock offering. It registered for the offering in August.

A spokeswoman for Chrysler said the company "has nothing to announce at this time" about suppliers for its electric car. An A123 spokesman declined to comment, noting the company is in a quiet period because of its registration for an IPO.

Chrysler has been keeping its work on electric cars under tight wraps. But in recent weeks, as GM's Volt drew heavy media attention, Chrysler management became concerned that the company was being left out of the increasing buzz about electric vehicles, people familiar with the matter said.

GM has poured millions of dollars into its Volt project and has hyped the car in television commercials, although it is still uncertain whether the batteries for the car will be available on time. The Volt is set for launch in late 2010.

Tuesday, Chrysler will also demonstrate the electric car in a presentation that will be broadcast to dealers across the country. The company is hoping to energize dealers who have been hit hard by the downturn in auto sales this year.

Chrysler, which was acquired a year ago by private-equity group Cerberus Capital Management LP, has been searching for partners to help it keep pace with GM and others in the race to launch high-tech cars that cut fuel consumption and greenhouse-gas emissions.

The company had originally thought it might be able to have a working electric car by the spring, people familiar with the matter said. But with Chrysler burning cash and its sales falling, Cerberus has pushed the company to focus on cutting expenses, they said. The auto maker's sales have sagged this year as high gas prices spooked American consumers away from large vehicles like trucks and SUVs. Although Chief Executive Robert Nardelli has slashed costs and sold off assets, Chrysler is still on track to lose money this year.

Chrysler's push to develop electric vehicles began before Cerberus took an 80.1% stake in the company in August 2007, people familiar with the matter said.

Chrysler plan heats up race for electric cars

By Associated Press | September 24, 2008

AUBURN HILLS, Mich. - Chrysler LLC charged up the electric car race yesterday, muscling in on General Motors Corp.'s Chevrolet Volt by unveiling three electric-powered models and promising to put one of them on sale in the United States sometime in 2010.

The company showed reporters three prototypes: a Dodge sports car, a four-door Jeep Wrangler, and a Chrysler minivan. Chrysler's product development chief, Frank Klegon, said the automaker hasn't decided which one it will roll out first.

The Dodge sports car is completely electric and based on Lotus Europa underpinnings, but the Wrangler and the Town & Country minivan will be extended-range vehicles similar to the Volt, which GM has said will go on sale in November 2010.

Like the Volt, all three Chrysler vehicles are recharged by plugging them into a standard wall outlet. The sports car is supposed to have a range of up to 200 miles, while the minivan and Jeep will be able to go 40 miles on battery power, with a small engine kicking in after that to recharge the batteries and extend the range to about 400 miles.

The automaker wouldn't reveal pricing, but GM's Volt is expected to cost \$30,000 to \$40,000, more expensive than most conventional cars. Chrysler said it hopes the cost will drop as more vehicles are sold.

With gas near \$4 per gallon, all automakers have been scrambling to roll out more efficient small cars and eventually electric vehicles. But even their new fuel-efficient gas-powered vehicles are about two years away, leaving struggling automakers to scrap for buyers in a shrinking US market that has shifted dramatically from trucks to cars.

Chrysler's sales have taken the hardest hit, and the automaker appeared to be behind other manufacturers that have announced plans to launch electric vehicles in the next few years. But vice chairman Tom LaSorda said Chrysler is further ahead on developing electric vehicles than many had thought.

Chrysler chief executive Bob Nardelli denied that Chrysler showed off its electric prototypes now because Congress is considering a \$25 billion loan program to help automakers and their suppliers modernize plants to make more fuel-efficient vehicles.

Vice chairman Jim Press said the timing of the announcement also had nothing to do with the publicity GM gained last week by revealing the production version of the Volt.

"This shows that our commitment is not to public relations, but to actually advancing technology and putting it in the hands of customers in an affordable manner," Press said. "This isn't just for publicity. This is part of our development process."

Nardelli told reporters the government loans would help speed the technology to market. But if they aren't approved, Chrysler will have to spend limited resources on developing new technology and would have to make cuts elsewhere, possibly in employment and development of conventional products.

The three vehicles displayed at Chrysler's headquarters complex were second-generation prototypes, built largely on existing models in order to speed them to market, Klegon said.

Chrysler also unveiled the Peapod, a small "neighborhood electric vehicle" that can go up to 30 miles on a charge, and said it would sell an electric vehicle in Europe sometime after 2010.

Klegon said Chrysler is still working with several partners on the battery technology for its vehicles. The company has an agreement with General Electric Corp. and the US Department of Energy, and also is working with battery maker A123 Systems Inc. of Watertown, Mass.

Toyota Motor Corp. also is pushing to get a plug-in electric vehicle to market in 2010, while Ford Motor Co., which is testing 20 on roads in California, says it is five years away from producing them in significant numbers. ■



East Boston PiersPAC

September 24, 2008

Secretary Ian A. Bowles
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Richard Bourre, Acting MEPA Director
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

RE: **Draft Environmental Impact Report / Environmental Assessment**
Southwest Service Area Redevelopment Program at Logan International Airport
East Boston, Massachusetts-
EEA No. 14137

Dear Secretary Bowles and Acting Director Bourre,

The East Boston PiersPAC has reviewed the June 27, 2008 MassPort submittal DEIR for the proposed Rental Car Consolidation / Garage DEIR- EEA No. 14137 Southwest Service Area Redevelopment Program at Boston Logan International Airport. Our comments on the DEIR are as follows:

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MEPA

- O-004-001 1) The DEIR did not discuss the overall impact of this project in relation to other developments currently underway or being proposed at Logan Airport. How does this proposed facility / development impact the overall development for present and future projects? This appears to be segmentation rather than an overview based on a Master Plan.
- O-004-002 2) The Alternatives which were studied did not include any proposal for underground parking levels which would have greatly reduced some of the impacts to the neighborhood.
- O-004-003 3) The Site Planning discusses the location of the garage and support structures will shield the adjacent neighborhoods from airport roadways and aircraft noise but does not discuss the added noise from the "open" garage activity.
- O-004-004 4) The garage and support structures are "designed to relate to the local community" and we did not see any proposed design for the buildings in the DEIR in order to comment on how the garage and structures related to the community. Perhaps these are to be developed subsequent to the DEIR or were not included within the document we received.

O-004-001

Massport reports on the cumulative effects of Logan Airport's operations and activities through in the annual Logan Airport Environmental Status and Planning Reports (ESPRs) and Environmental Data Reports (EDRs) dating back to 1993. ESPRs are intended to provide a broad planning context for Logan Airport, as well as to provide information on current environmental conditions for the reporting year compared to previous years. EDRs, which are prepared annually in the interval between ESPRs, provide a snapshot of environmental conditions for the reporting year compared to the previous year. See also Chapter 8, *Federal Requirements*, for the ConRAC factors in other current and reasonably foreseeable airport projects.

O-004-002

Please refer to Chapter 1, *Proposed SWSA Redevelopment Program* for a discussion of below-grade parking levels.

O-004-003

The noise assessment considered noise generated in the Garage Structure (assumed to be 'open air') from two major sources: (i) traffic on the access and egress ramps; and (ii) maximum sound levels due to potentially audible events, including car alarms and door slams. The maximum noise levels from both types of events were computed at specific representative community locations (Figure 4.3).

As discussed in Chapter 4, *Air Quality and Noise*, the vehicle ramps on the south side of the Garage Structure will be screened to shield the community from traffic noise on these ramps. Also, partial enclosure of the south and west facing facades of the Garage Structure is proposed to minimize the audible intrusion of these events. Refer to Chapter 1, *Proposed SWSA Redevelopment Program* for further details on the proposed facade treatments.

O-004-005

5) The Construction Impacts are stated such that "short term construction impacts are off-set by the opportunity to make long-term improvement to the character of the SWSA (Southwest Service Area)". This seems self-serving for the ends to justify the means.

6) The DEIR states that Foundation work, such as pile driving, will be arranged for minimal impact and only for a relatively short period of time. What is the duration and what mitigation is being proposed?

O-004-006

7) No Sun-Shadow impact studies were included within the DEIR. We suggest that a review be made of the impact of the Summer sun studies along Maverick Street.

O-004-007

8) The garage structure is shown to be 65 feet in height and 80 feet from Maverick Street and we do not understand how this relates to the local community.

O-004-008

9) Air Quality seems to be the largest gain for the overall development but we did not find any mention of the wind flow from the community which often times "clears the air" from the Jeffries Point area toward the Airport. This very large structure may block these breezes. Suggest a study be performed from the community side and not the Airport side.

O-004-009

10) Building Design: This section states that it "describes the beneficial measures related to building design" but no building design is shown. The program calls for an open garage design for natural ventilation and daylighting but does not discuss impact of the design on the surrounding community. The Architectural treatment discusses "aesthetically pleasing exterior elements and façade treatments" which is difficult to understand without seeing any proposed designs.

11) The renewable energy items seem to be played down in this section.

O-004-010

12) The Table 2.2 Note 6 discusses the Parking Freeze and the 3,000 Commercial Spaces to be added. Where did these 3,000 spaces come from?

O-004-011

13) The off-site Rental Car locations are proposed to be located at this new facility. What is to happen to those off-site properties? Will these become Park and Fly locations and add to increased traffic and pollution?

O-004-012

14) Appendix C describes the South Façade and suggests the treatment should "visually minimize scale of garage to neighborhood and avoid horizontal concrete spandrel

O-004-004

Chapter 1, *Proposed SWSA Redevelopment Program* provides an update on the program design criteria and includes figures showing community perspectives and elevation plans.

O-004-005

As discussed in Chapter 6, *Construction*, the anticipated construction-related impacts would be temporary in nature and mitigated to the greatest extent possible.

O-004-006

The project design team evaluated shadows associated with the proposed ConRAC facility and concluded that due to the location of the building (north of Maverick Street, east of Gove Street, and distance from Memorial Stadium Park) position relative to the sun, and the massing of the structure, that there would be no impact from building shadows.

O-004-007

See the response to Comment O-004-004 above.

O-004-008

Chapter 5, *Air Quality* of the 2008 Draft EIR/EA presented the pedestrian wind analysis, in accordance with the Secretary's Certificate on the 2007 ENF. The pedestrian wind analysis concluded that the proposed Garage Structure is not expected to have a significant effect on pedestrian-level wind conditions on or near the facility or in the adjacent neighborhoods. The only predicted wind impacts would be near the corners of the Garage Structure and landscaping measures have been incorporated into the site design to minimize these potential effects. These impacts would be reduced with the modifications made to the Garage Structure

O-004-012

treatment at upper levels, and at southwest corner beyond the existing Maverick Street noise wall". It also includes "diffuse noise transmission to neighborhood where required". The West façade is also noted to "visually mitigate the scalethrough the use of a varied façade treatment". We cannot comment on this without visual documents showing the buildings and facades.

O-004-013

15) The overall DEIR sounds as though a building design has been prepared and the Section under Light Emissions and Visual Effects states that the "building design incorporates aesthetically pleasing exterior elements and façade treatments with a texture, grain, and scale of detail befitting the local context to mitigate the appearance of the proposed structures in the SWSA". It would be helpful to see a rendering or visual presentation of the buildings being proposed since the DEIR implies that there are designs for such structures.

We look forward to seeing responses to these comments and thank you for the opportunity to work with your offices to improve our neighborhood.

Sincerely,


Richard Salini, Chairperson
East Boston PiersPAC

cc. City of Boston Environment Department
Councillor LaMattina

Richard Salini, President 155 Webster Street, East Boston, MA 02128

(as presented in the 2009 NPC), including reduced height and size, and increased setback from the airport edge.

O-004-009

Updates to the program design and visual impacts/aesthetics are provided in Chapter 1, *Proposed SWSA Redevelopment Program*.

O-004-010

As presented in the 2009 NPC, the SWSA Redevelopment Program no longer includes the commercial parking component within the Garage Structure.

O-004-011

As discussed in Chapter 3, *Surface Transportation*, all rental car customer service functions will be relocated to the new ConRAC facility so individual shuttle buses will no longer need to travel to the existing off-airport rental car company locations to pick up customers; therefore, reducing vehicle trips within the overall traffic study area under future Build Conditions compared to the future No-Build/No-Action Conditions.

The existing off-airport rental car properties are privately owned and Massport does not control the future use of those properties. The rental car companies have reported that they expect to retain these properties off-airport to be used for rental car fleet storage and maintenance, as needed.

O-004-012

Refer to Chapter 4, *Air Quality and Noise*, for a description of the proposed screening of the south and west facades of the Garage Structure to minimize impact to the surrounding community.

O-004-013

Based on conceptual design, Chapter 1, *Proposed SWSA Redevelopment Program* expands on the design criteria and provides updated conceptual perspective views of the project from the neighborhood.

September 25, 2008

Ian A. Bowles, Secretary
Executive Office of Energy and Environmental Affairs
ATTN: MEPA Office, Anne Canaday
100 Cambridge Street, Suite 900
Boston, MA 02114

RECEIVED

SEP 25 2008

MEPA

RE: EEA #14137, Southwest Service Area Redevelopment Program at Boston-Logan International Airport, Draft Environmental Impact Report/Environmental Assessment (DEIR/EA)

Dear Secretary Bowles:

Porter 156 is a 215-unit residential condominium structure located in East Boston adjacent to the northwest side of the proposed Southwest Service Area Redevelopment Program that has been proposed by the Massachusetts Port Authority (Massport). In general, we support Massport's efforts to improve this facility and its relationship to the surrounding community, as expressed in our letter to you dated January 23, 2008, in which we commented on the project's Environmental Notification Form (ENF). We offer the following comments on the Draft Environmental Impact Report/Environmental Assessment (DEIR/EA).

Porter Street reconfiguration

The proposed reconfiguration of Porter Street south of the proposed taxi pool will do much to alleviate current traffic congestion, confusion, and safety issues, and the relocation of the bus and limo pool to the north side of the airport is a positive change. However, the proposed exit from the taxi pool to Porter Street may enable taxis to enter Porter Street without stopping and yielding to westbound traffic. We recommend that Massport address this issue through design features and other means to minimize potentially unsafe situations.

O-005-001

Massport shuttle bus lay-over area

The lay-over area proposed for Massport shuttles is located in the corner of this project closest to our property. Although not identified as a shuttle bus lay-over area in the ENF, our concerns with this proposed use include: (1) air quality; (2) noise; and (3) visual impacts. We recommend that Massport address the first two issues through the adoption of, and strict adherence to, a management plan, ensuring compliance with the use of low-emission vehicles, short idling times, and protocols to keep noise to a minimum. We also believe Massport can reduce the impact of all three issues by providing a noise wall barrier, a berm, appropriate landscaping, or a combination of some or all of these options along the border of the shuttle bus lay-over area, Memorial Park, and the park entrance from Porter Street.

O-005-002

O-005-001

As discussed in Chapter 3, *Surface Transportation*, the safety and traffic control device placement for the Porter Street / Taxi Pool exit intersection will be evaluated during the preliminary and final design of the project.

O-005-002

As discussed in Chapter 1, *Proposed SWSA Redevelopment Program*, the Unified Bus System will utilize clean and low-emitting fuel type, such as Clean Diesel Hybrid or CNG. Also, in accordance with the state 'no idling' law, Massport will post 'no idling' signage at throughout the SWSA. Landscaping (trees and shrubs) is also proposed along the park entrance from Porter Street, which would buffer and reduce any visual or noise impacts as well as light spill during night-time hours.

O-005-003

In response to our comments on excessive noise from the Embassy Suites shuttle busses, Massport has stated that it will "...work with Embassy Suites separately from the proposed Program to address shuttle bus operations." Given that the City of Boston has found the Embassy Suites shuttle buses out of compliance with regard to noise limits, we welcome Massport's involvement in resolving this issue. We recommend that the Massport shuttle lay-over area be considered for shared use by the Embassy Suites shuttle busses to facilitate their turn-around and minimize noise.

Massport shuttle bus access

We are very encouraged by the design layout for the pedestrian/bike paths along Porter Street to access Massport shuttle busses. We believe a well-designed and built pathway along Porter Street provides a safe alternative for residents to access local terminals via Massport shuttle at night or during inclement weather.

Pedestrian/bikeway network

O-005-004

We support the concepts that Massport has developed to tie together the Gove Street and Jeffries Point neighborhoods with Logan, the Harbor walk, Memorial Park, and other East Boston areas through its proposed pedestrian paths, bikeways, and open space. The proposed pedestrian and bikeway network are a vast improvement over existing sidewalks, some of which are substandard. We recommend that Massport incorporate its new September 11 memorial, a significant addition to Logan and East Boston, into the proposed pedestrian network by extending pedestrian improvements from Harborside Drive eastward on Hotel Drive.

As MassPort moves forward with this project, particularly its shuttle bus lay-over area and the pedestrian and bikeway network, we request that periodic updates be made available to residents at Porter 156, and that residents have an opportunity to provide input as design details are developed. Once again, we appreciate the opportunity to comment on this project and look forward to working with your office and Massport to resolve any outstanding issues.

Sincerely,

Kristina Tecce, Chair
Board of Trustees
Porter 156

cc: Senator Anthony Petrucelli
Representative Carlo P. Basile
Boston City Council

O-005-003

Massport will review and consider this issue; however, as described in Chapter 3, *Surface Transportation*, the location of the hotel drop-off/pick-up area does not align with the proposed bus parking area. Because of this, the Program would not be able to provide adequate roadway for the hotel shuttle to make a three-point turn to enter the Porter Street drop-off area at the front of the hotel.

O-005-004

Because the existing pedestrian circulation system in the SWSA is fragmented and inhospitable, it discourages people from walking to/from the 9-11 Memorial from public transportation and the East Boston neighborhoods. As discussed in Chapter 1, *Proposed SWSA Redevelopment Program*, the SWSA Redevelopment Program will provide new pedestrian access to the 9-11 Memorial with a greatly enhanced and cohesive pedestrian circulation system and streetscape improvements.

ENGEL & SCHULTZ, LLP.

Attorneys at Law

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September 26, 2008

Via email to: anne.canaday@state.ma.us

Ms. Anne Canady
Environmental Analyst
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: Southwest Service Area Redevelopment Program
Logan Airport, Boston
EOEA #14137

Dear Ms. Canady:

I am submitting these comments on behalf of Airport Impact Relief, Inc. ("AIR, Inc.") in regard to the Draft Environmental Impact Report/Environmental Assessment ("EIR/EA") submitted by Massport for the above-referenced Southwest Service Area ("SWSA") Redevelopment Program.

As I emphasized in my letter dated January 23, 2008 commenting on the Environmental Notification Form ("ENF"), the proposed Massport development – the principal feature of which is the proposed 9,000-space consolidated rental car facility and commercial parking garage ("ConRAC") – lies in very close proximity to a densely-populated residential neighborhood, and two sides of the actual development area physically abut residences and residential uses on Maverick Street (to the south) and the Geneva Street/Wellington Street corridor (to the west). For that reason, AIR, Inc. requested that Massport be required to respond with care and sensitivity to the issues and needs of the surrounding residential community.

After reviewing the Draft EIR/EA, we do not believe that Massport has achieved that goal. Specifically, we still have the following issues and concerns about this proposed project:

I-001-001

1. Alternatives analysis. It was requested in my earlier letter that Massport evaluate use of off-site alternative locations, including the Central Garage at Logan, for some or all of the proposed ConRAC activities instead of locating all of the proposed facilities in the SWSA. My previous comments included the following suggestions, questions, and requests for further analysis:

I-001-001

Chapter 1, *Proposed SWSA Redevelopment Program* discusses the alternative sites evaluated previously for the Program. Consistent with the Purpose and Need, the SWSA was identified as the preferred site for a consolidated rental car facility because it is the only on-airport parcel, compared to the other sites evaluated, that:

- Is large enough to efficiently and adequately accommodate the long-term transportation, parking and access demand for rental car operations based on current and future air passenger growth at Logan Airport, which requires at minimum of over 45 acres to accommodate the anticipated rental car demands in a limited height Garage Structure. (The NSA is only approximately 9.5 acres total and the Robie Parcel is only approximately 7.6 acres total – both of which are programmed for other airport-related operations/uses.)
- Would make efficient use of available on-airport land;
- Would make efficient use of access to main airport circulation roadways, terminals and the regional highway network providing excellent ground access;
- Would utilize existing airport ground transportation infrastructure;
- Would follow sustainable/LEED criteria through the ability to facilitate pedestrian, bicycle and transit accessibility by locating the facility within walking distance to public transportation; and
- Would provide environmental benefits (e.g., improved air quality through reduced vehicle-miles-traveled).

I-001-002

"1. Massport should be required to evaluate alternative concepts for handling of car rental and commercial parking at the Airport, other than what it has proposed with this project. It is not fully understood, at this time, why new commercial parking facilities with up to 3,000 parking spaces are needed at a site so far removed from the passenger terminals; how the size of the proposed facilities could be reduced by off-site locations and utilization of less traditional, and more imaginative, passenger transportation concepts, including possible subsidization by Massport of alternative facilities at and access to off-Airport locations. For instance, is it possible to have some supplemental passenger baggage screening and check-in facilities at the suburban Logan Express locations, along with rental car pick-up and drop-off facilities? What security and/or airline requirements influence the feasibility of expanding use of these sites for multiple aviation and transportation purposes, and not simply for the express bus origin/destination locations and parking facilities? Are there other development, or co-development, opportunities at suburban locations for Airport-related rental car facilities? What alternative uses exist for the Southwest Service Area if it were not to be developed for expanded rental car, parking, and ground transportation facilities?

I-001-003

"2. Alternative locations and designs for this proposed project, and elements of the project, including, at a minimum: (a) alternative locations for the project as a whole outside of the SWSA, and a discussion of attempts by Massport to find and/or locate the project outside the SWSA; (b) alternatives for siting and location of particular elements of the project within the SWSA, i.e. why the parking garage is sited so close to Maverick Street rather than further away from residences, why the service area buildings are being located so close to Maverick Street and the western side of the project site; (c) alternatives for traffic circulation so that Tomahawk Drive, Jeffries Street, and Wellington Street do not have so much traffic from the project and from the taxi pool, bus/limo pool, and other Airport facilities; and (d) whether portions of the project, such as some or all of the rental car spaces and facilities and some or all of the commercial parking spaces, can be located outside of the SWSA and into, for example, new facilities at the existing (or further expanded) Central Garage which is closer to the passenger terminals."

Massport's response to these issues in Chapter 13 of the Draft EIR/EA simply dismisses, without analysis, any consideration of alternative on- and off-Airport locations, using as the rationale that other locations do not meet the defined "purpose and need" of its Program, referring to Chapter 1 of the Draft EIR/EA. But without an analysis of use of the existing (or expanded) Central Garage, or the Robie parcel in the North Service Area, Massport has not explained why the SWSA parcel is the only on-Airport parcel that has sufficient space/size to meet the goals of its project. Furthermore, each of these sites would in fact accomplish the Massport objective of reducing impacts of off-airport rental car operations on the local community, and do so even more effectively than the Massport proposal. See also Chapter 2 of the Draft EIR/EA, where the only two other "SWSA Program Alternatives" evaluated involve use of the SWSA site itself, and not other locations outside

I-001-002

Refer to the response to Comment I-001-001 above.

I-001-003

Refer to the response to Comment I-001-001 above.

Ms. Anne Canady
September 26, 2008
Page Three

of the SWSA in whole, or in part.

I-001-004 In addition, to the extent this document has been circulated as a draft FAA Environmental Assessment, the FAA is required by FAA Order 1050.1E, ¶ 405d to consider alternatives which might be accomplished with less harm to the environment and alternatives which have been proposed by the public. This has not been done, which is of particular concern since the very intensive uses of the SWSA site which are now being proposed are different in their quality, character, and degree of impacts from the current uses.

I-001-005 One particular area of concern relates to the traffic patterns and roadway system being proposed. The proposed project reduces shuttle bus traffic and concentrates bus circulation on the interior of the site along Harborside Drive, which is a benefit to the surrounding neighborhoods. But instead of also moving rental car and commercial parking circulation routes to Harborside Drive and Jeffries Street, this traffic will be on Hotel Drive Extension (Tomahawk Drive) and the Service Road (Wellington Street) which directly abuts the neighborhoods. Massport should develop an alternative that directs outgoing and returning rental car and commercial circulation to Harborside Drive to reduce impacts on the local streets.

2. Air quality and public health impacts. It was specifically requested in my earlier letter that Massport evaluate

“the air emissions, public health, and design benefits of alternative designs including (a) constructing the parking garage as a fully-enclosed, and/or partially-enclosed facility which would capture emissions from motor vehicles to collect, treat and exhaust these emissions through a state-of-the art system designed to mitigate impacts on the nearby residences; (b) the financial and technical feasibility of construction of some, or all, of the proposed garage below grade, including what cost differences are involved with an above-grade and below-grade construction; and (c) benefits of locating some of the facilities away from the residential streets or at the Central Garage.....”

I-001-006 Only a very small portion of the requested analysis has been done. Of particular significance is the fact that Massport appears not to have looked at the financial and air quality effects of using a partially-enclosed design for the ConRAC facility in order to reduce air emissions impacts on residents by inclusion of, for example, solid walls on the two sides directly abutting the community. Massport’s response in Chapter 13 to the above comment simply refers to the regional air quality analysis in Chapter 5, but Massport has not undertaken any localized air quality analysis of various design concepts which might reduce air quality impacts in the immediate neighborhood of the project. The potential health effects on nearby residents of emissions from the ConRAC facility, and the proposed roadway system, have not been examined even though these issues were raised in a number of comments on the ENF. These omissions should be corrected now.

I-001-007

I-001-004

Refer to the response to Comment I-001-001 above.

I-001-005

As discussed in Chapter 2, *Alternatives*, of the 2008 Draft EIR/EA, various site layout and access alternatives were evaluated as part of the alternatives analysis. Through an evaluation of traffic volume and adjacent roadway and intersection capacity, it was determined that segregation of traffic associated with the taxi pool, common shuttle bus and rental car and commercial vehicles would be required. The proposed circulation pattern balances the access requirements of the rental car operation, taxi pool, Maverick Street Gate, and Embassy Suites Hotel traffic between Porter Street, Jeffries Street, and the extension of Tomahawk Drive.

I-001-006

As presented in Chapter 4, *Air Quality and Noise*, the micro-scale dispersion analysis did not reveal any violations of the ambient air quality standards for carbon monoxide (CO) or particulate matter larger than 10 or 2.5 microns (PM10/2.5) in diameter.

The final design of the proposed SWSA Redevelopment Program incorporates architectural features that visually minimize the scale and partially enclose. Sections of the Garage Structure that face the nearby neighborhoods. These features include retaining the existing 18-foot high sound wall at the south end of the site; screened vehicular access/egress ramps for the south side of the Garage Structure; and architectural green screens, perforated panels and/or plantings on some facades.

I-001-007

The potential air quality impacts in the immediate neighborhood of the

I-001-008

3. Regional traffic and parking issues. The requested information concerning regional parking issues, including identification of the locations of commercial, Airport-related, and employee parking, as well as the status of enforcement of the several parking freezes, has been ignored. Instead, Massport has limited its transportation and parking analysis to on-airport issues, which does not properly address concerns expressed in a number of comment letters on the ENF.

4. Airport Edge Buffer Program. The requested information regarding budgetary, design, construction and maintenance issues with regard to the SWSA Airport Edge Buffer Area (Phase 2), and connection of this buffer to the Memorial Stadium Park, the Bremen Street Park, and the buffers and open space going northward to Constitution Beach and the Bayswater Street Airport Edge, has not been included in the very limited information presented in the Draft EIR/EA.

The plan as presented represents a significant improvement to the landscape character of the SWSA and the edges of the residential neighborhoods from the existing conditions. Significant street tree plantings and lawn and shrub plantings, if maintained to the high standard of other Massport landscapes, will be a major enhancement to the area. We support Massport's commitment to the concept of pedestrian and bicycle access as an important element of the buffer parks. Opportunities shown on the plan for pedestrian/bicycle access and circulation through the site will, if properly designed and constructed, provide a great benefit to the community. Pedestrian/bicycle connections to the neighborhoods and nearby park and open space facilities will enhance the use and enjoyment of these facilities by a greater number of persons.

It is our understanding that Massport intends to provide a community planning process for the SWSA Airport Buffer Area (Phase 2) similar to the process most recently used for the Navy Fuel Pier Buffer¹ and Phase 1 of the SWSA Buffer. In that process a number of important design issues will need to be resolved. For example, the nature of the open space parcel on Geneva Street remains undefined. There is an opportunity to design a neighborhood park or significant open space amenity at this site, and it is critical that there be a thorough public process to review and comment on design proposals as they are developed. Although we understand that the Draft EIR/EA is describing open space developments in a conceptual manner at this stage, it will be important in that process to define the purpose and character of the various spaces, e.g. as "connectivity corridors," "streetscapes," and/or "gateways." We also believe that, given the intensity of the uses of the SWSA proposed for the garage and other elements of the ConRAC, a substantially larger and more robust area of open space is needed for the SWSA Airport Edge Buffer Area (Phase 2) than is proposed on the plans to date, which improved buffer is essential to mitigate the impacts of the proposed project.

Based on the plans submitted to date, there appear to be some discrepancies about the limits of the buffer areas shown on various plans. We assume that the SWSA buffer as delineated on the

¹Figure 3.1 should be corrected so that the Navy Fuel Pier Airport Edge Buffer Area is shown on that plan of existing open space in the area of the project.

SWSA have been assessed and reported upon in Chapter 5, *Air Quality* of the Draft EIR/EA. In particular, the Microscale Analysis predicts ambient ("outdoor") levels of carbon monoxide (CO) and particulate matter (PM10/2.5) at an array of receptors located in the Memorial Stadium recreational area to the north, the Jeffries Point neighborhood to the south and the Grove Street neighborhood to the west. In addition, intersection "hot-spot" modeling of CO was performed at the Harborside Drive intersections with Porter Street, Jeffries Street, and Hotel Drive. In all cases, the resultant concentrations were well within the State and National Ambient Air Quality Standards (AAQS) - levels established by the U.S. EPA to protect public health, welfare and the environment. Finally, a Wind Analysis was also conducted that evaluated the effects of the site layout and building design on local wind patterns in neighborhood areas that adjoin the project site.

I-001-008

As presented in the 2009 NPC, the SWSA Redevelopment Program has been revised to remove the commercial parking component from the Garage Structure.

I-001-009

As discussed in Chapter 1, *Proposed SWSA Redevelopment Program*, concepts for the design of the open space on Geneva Street are currently under consideration and include planting trees, shrubs and perennials that are native to coastal New England. An additional feature includes interpretive plaques that would provide details about the plants and their native habitat.

I-001-010

Chapter 1, *Proposed SWSA Redevelopment Program* provides an update on the Phase 2 SWSA Landscape Edge Buffer and other site landscaping, including further detail on the proposed landscape

Ms. Anne Canady
September 26, 2008
Page Five

I-001-012 plan which has been discussed with AIR, Inc. As part of the extension of the community agreement represents the Phase 2 buffer, extending from the Phase 1 project all the way along Wellington Street to the Memorial Stadium connection. In the Draft EIR/EA, however, Figure 2.4 depicts the location and extent of the Phase 2 SWSA Edge Buffer and Connection area much more narrowly; Figures 3.2 and 3.3 suggest landscape treatments along the original buffer zone in a manner more consistent with the discussions AIR, Inc. has had with Massport.

I-001-013 To date Massport has not clarified the intensity of its proposed use of the Service Road in a way which allows us to understand what impacts that road will have on the buffer along this edge. This is an already narrow buffer zone. The connection to the open space at Memorial Stadium moves around a site which now houses a car wash, and is indicated on the proposed plan as the site of what appears to be truck parking. Use of this area needs to be further clarified. In fact, making a direct connection from the buffer area to the new Memorial Stadium has been, and now is, a priority for residents in the neighborhoods and AIR, Inc.

I-001-014

I-001-015 Finally, Figure 6.3 indicates noise mitigation in the form of construction of various buffer walls, which we assume residents will want to support since the existing wall at Maverick Street has generally been a positive element for the neighborhood. But because the new walls are proposed for a narrow buffer area so close to the SWSA development site, it is important that the design of these walls be clarified so that the narrow space will not feel cramped by the road and high walls, created in large part by the minimal size of the buffer here.

Thank you for your attention to these matters.

Sincerely yours,



Peter L. Koff

treatment zones and report graphics illustrating the typical treatments being considered.

I-001-011

Chapter 1, *Proposed SWSA Redevelopment Program* provides an update on the Phase 2 SWSA Landscape Edge Buffer and other site landscaping. Massport has long contemplated a consolidated rental car facility in the SWSA. With that in mind, Massport set aside an area of Massport property along the perimeter of the Site to function as the SWSA Airport Edge Buffer to visually screen airport operations from the neighboring community. The area designated for the Phase 2 SWSA Airport Edge Buffer in the proposed SWSA Redevelopment is consistent with prior discussions between AIR, Inc. and Massport.

I-001-012

Refer to the response to Comment I-001-011 above.

I-001-013

As described in Chapter 3, *Surface Transportation*, the Service Road, between Porter Street and the garage ramp system, will be signed for use by only authorized service vehicles. These service vehicles will consist of rental car company car shuttling, service vehicles (trash, vehicle parts, fuel) and occasional car-carrier (approximately 3 per day). Average daily traffic is projected to be less than 200 vehicles per day, 95 percent less than the current average daily traffic along Wellington Street (4,600 vehicles per day).

I-001-014

As described in Chapter 3, *Surface Transportation*, the open space at Memorial Stadium is directly linked to proposed multi-use path that is proposed along the Service Road. A crosswalk and ADA-accessible ramps will be provided on Porter Street, west of the Service Road, to

facilitate this connection. The existing Dollar site, located in the northwest corner of the Porter Street / Service Road intersection, is proposed as a short-term parking facility for the occasional consolidated shuttle bus. The multi-use path connection between Porter Street and the Memorial Stadium Park is via landscaped strip of land, previously provided to the City of Boston in 2003 by Massport, located between the Dollar site and the Porter 156 parking area.

I-001-015

The proposed solid walls/fences would be in the range of six to eight feet high because such heights provide noise reduction benefits while minimizing the visual intrusiveness of the walls; however, the details of the walls in the buffer areas will be developed during final design.

Anne Canaday
EEA No. 14137
Massachusetts Environmental Policy Act
100 Cambridge St.
Boston, MA 02114

RECEIVED
SEP 24 2008
MEPA

September 23, 2008

Dear Ms Canaday,
I am responding to the report on the Southwest Service Area Redevelopment Program, EEA No. 14137. As stated by MassPort, on their web page:

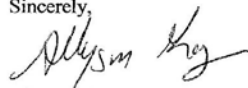
The purpose of the proposed SWSA Redevelopment Program is to consolidate on-airport rental car operations and facilities into one integrated facility in order to better serve both the tenants and the traveling public, reduce ground transportation and air quality impacts on-airport and in the surrounding neighborhoods, and to reduce associated off-airport impacts. The SWSA Redevelopment Program also includes a commercial parking component, which would improve management of the parking supply on the airport. The proposed commercial parking will fully comply with the Logan Airport Parking Freeze

I am glad to see the reduction of the rental car bus service into one system and the current cars, managed by the rental companies, set into one location. However, there are a few changes I hope you will consider requesting of MassPort so that the air quality of the neighborhood will not be adversely affected. As you know, a car's cold start creates the largest amount of particulate matter injurious to health within a two block area. Mass Port's current plan involves a 5 story, open garage less than two blocks from residential housing.

Please consider requesting several revisions to their plan.

1. Enclose the garage and install an exhaust system.
2. Move the auto entrance from the southeast side to the northeast side. The current plan means that thousands of cars, both rental and commercial, will be driving within less than a block of the residential area
3. Move the parking for commercial vehicles, estimated at 3,000, to another location in the airport further from the residential area.

Sincerely,



Allyson Gray
221 Webster St.
East Boston, MA 02128

Cc: Lowell Richards, Massport

I-002-001

Refer to Chapter 4, *Air Quality and Noise* for a discussion of enclosing the Garage Structure. As discussed in Chapter 4, the design goal of the Garage Structure is to maintain a building code classification of an 'open parking structure' to allow for daylight and natural ventilation; thereby, avoiding the need for a substantial amount of conditioning systems resulting in higher energy use as well as project costs. Increased energy consumption would result in greater Greenhouse Gas emissions, thus negatively impacting air quality.

I-002-002

Chapter 2, *Alternatives* of the Draft EIR/EA also presented two alternative site layouts that were considered through the conceptual design process both of which were dismissed due to inefficient site circulation and/or building design.

I-002-003

As presented in the 2009 NPC, the SWSA Redevelopment Program has been revised with the removal of the commercial parking component (3,000 parking spaces on Levels 4 and 5 of the previously proposed Garage Structure) resulting in a substantial reduction in size of the Garage Structure (by about 50 percent).

Stacey & Jason Alstrom
82 Eutaw Street
East Boston, MA 02128

I-003-001
Comment noted.

September 22, 2008

Secretary Ian A. Bowles
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

RECEIVED

SEP 24 2008

MEPA

Richard Bourre, Acting MEPA Director
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Subject: EEA No. 14137 SWSA Logan Airport ConRAC Project

Dear Secretary Bowles and Director Bourre,

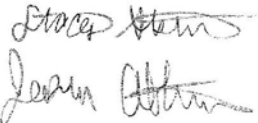
I-003-001

We support the proposed Massport consolidated rental car facility at Logan Airport described in the DEIR/EA. The projected air quality improvements for the local area due to the planned replacement of scores of redundant diesel powered buses operated by over half-a-dozen rental car companies with a much smaller number of CNG powered buses are commendable.

We're in favor of the proposed ConRAC neighborhood enhancements which would include new pedestrian and bicycle connections to the Bremen Street and Memorial Parks, as well as direct connections to the East Boston Greenway and Harborwalk facilities. These proposed pedestrian and bicycle improvements would significantly upgrade the non-vehicular intra-neighborhood connectivity system of East Boston, of particular importance in light of recent public efforts to develop alternatives to automobile dependency.

We also appreciate the predicted traffic reduction on local neighborhood streets that would be realized by transferring some rental car operations out of East Boston directly onto the airport.

Sincerely,



44 London Street
Boston, MA 02128
05 September 2008

RECEIVED
SEP 11 2008
MEPA

Mr. Ian Bowles, Secretary
Executive Office of Energy and Environmental Affairs
Attn: Anne Canady, MEPA
100 Cambridge Street, Suite 900
Boston, MA 02114-2524

Dear Secretary Bowles:

Re: Public Comments on South Service Area Redevelopment Program / Massport
Draft Environmental Impact Report

I have two concerns regarding the above report.

I. Location of ConRAC

At a public hearing held Wednesday, September 3, 2008 in East Boston the Massport team acknowledged that the only site consideration as such was in regard to various issues concerning the already designated site at the southwest area of the airport. There was no evaluation of alternative possibilities. Given the major issue noted below would be not be possible to review other sites for the proposed facility?

I-004-001

II. Pollution vis a vis The Open Garage

It would appear that the immediate East Boston neighborhood will be subject to a major health concern of the particulate matter emanating from many thousands of vehicle in the proposed open garage. At the hearing when this was noted the Massport team admitted that a closed garage with a venting system would significantly decrease this public health problem in the making. The team referenced financial concerns that a closed/vented system was not specified. There is no cost/benefit analysis in the report, however. Obviously this would be a non-issue entirely if the facility was placed elsewhere on the Logan grounds.

I-004-002

Thank you for incorporating these remarks into the record.

Very truly yours,


Susan Parker Brauner

I-004-001

Chapter 1, *Proposed SWSA Redevelopment Program* discusses the alternative sites evaluated previously for the Program. Consistent with the Purpose and Need, the SWSA was identified as the preferred site for a consolidated rental car facility because it is the only on-airport parcel, compared to the other sites evaluated, that:

- Is large enough to efficiently and adequately accommodate the long-term transportation, parking and access demand for rental car operations based on current and future air passenger growth at Logan Airport, which requires at minimum of over 45 acres to accommodate the anticipated rental car demands in a limited height Garage Structure.(The NSA is only approximately 9.5 acres total and the Robie Parcel is only approximately 7.6 acres total – both of which are programmed for other airport-related operations/uses.)
- Would make efficient use of available on-airport land;
- Would make efficient use of access to main airport circulation roadways, terminals and the regional highway network providing excellent ground access;
- Would utilize existing airport ground transportation infrastructure;
- Would follow sustainable/LEED criteria through the ability to facilitate pedestrian, bicycle and transit accessibility by locating the facility within walking distance to public transportation; and
- Would provide environmental benefits (e.g., improved air quality through reduced vehicle-miles-traveled).

I-004-002

As described in Chapter 4, *Air Quality and Noise*, the air quality assessment included a dispersion modeling analysis of particulate matter from motor vehicles accessing, using and egressing the SWSA. This analysis evaluated ambient ("outdoor") levels of PM10 and PM2.5 (particle size ranges for which the U.S. EPA and DEP have established Ambient Air Quality Standards (AAQS) on the project site and in the adjoining neighborhoods of Jefferies Point and Grove Street).

The results revealed no violations of these AAQS under the future-year Build Condition.

Also, as discussed in Chapter 4, the design goal for the Garage Structure is to maintain a building code classification of 'open parking structure' to allow for daylight and natural ventilation; thereby, avoiding the need for a substantial ventilation/conditioning systems resulting in increased energy use and higher project costs. Increased energy consumption would result in greater Greenhouse Gas emissions, thus negatively impacting air quality.

Kehoe, Barbara (EEA)

From: Ennis, Tom [TEnnis@massport.com]
Sent: Friday, September 26, 2008 11:22 AM
To: Kehoe, Barbara (ENV)
Cc: Leiner, Craig; Dalzell, Stewart; Richards, Lowell (contact,SEA); Guerriero, Anthony; Leonard-McLean, Catherine
Subject: FW: Parking
Importance: High

Barbara: We recently received this comment letter. Could you please include it in the comments for the Southwest Service Area Redevelopment Program DEIR, at Logan, EEA # 14137.

Thanks in advance for your help. Tom Ennis

Anthony,

I-005-001

Good morning I was thinking about the proposed parking monstrosity that MassPort has proposed for the rental car return. As a resident of East Boston I don't understand why you would use that section of the Airport for parking? This area has a water and city view and could be utilized much better if some thought was put into it.

I have chatted with other neighbors and a few suggestions came up and I was wondering if there was any chance these thoughts could be looked at.

I-005-002

1, Move the rental returns over to where the signature terminal is. This has easy access to the highways and airport terminals. This is an industrial section of the airport and not surrounded by houses. Plus most of the building are "past there use by date".

I-005-003

2, make the first 3 floors of proposed site parking (maybe 2 underground) and then have 6 floors of hotel (maybe condos too) that would be taking advantage of the harbor views. This would provide East Boston with another destination with restaurants... and visitors would use our restaurants and shops This would be a win win situation for all. You could even consider a shopping area...If the proposed Casino goes in this would be a prime spot for travelers to stay.

3, Put more thought process into how East Boston and the Airport can become a better place for all... I believe we can all coexist and benefit from thoughtful growth.

Lastly I received an email saying that Roseland wants to now build a 14 story tower on the pier! What is this all about?

Please feel free to call.

Melissa Tyler
Chief Navel Officer

617-997-4427 office
617-571-9031 mobile
617-249-0767 Fax
100 Marginal St
East Boston, MA 02128

9/26/2008

I-005-001

Chapter 1, *Proposed SWSA Redevelopment Program* discusses the alternative sites evaluated previously for the Program. Consistent with the Purpose and Need, the SWSA was identified as the preferred site for a consolidated rental car facility because it is the only on-airport parcel, compared to the other sites evaluated, that:

- Is large enough to efficiently and adequately accommodate the long-term transportation, parking and access demand for rental car operations based on current and future air passenger growth at Logan Airport, which requires at minimum of over 45 acres to accommodate the anticipated rental car demands in a limited height Garage Structure.(The NSA is only approximately 9.5 acres total and the Robie Parcel is only approximately 7.6 acres total – both of which are programmed for other airport-related operations/uses.)
- Would make efficient use of available on-airport land;
- Would make efficient use of access to main airport circulation roadways, terminals and the regional highway network providing excellent ground access;
- Would utilize existing airport ground transportation infrastructure;
- Would follow sustainable/LEED criteria through the ability to facilitate pedestrian, bicycle and transit accessibility by locating the facility within walking distance to public transportation; and
- Would provide environmental benefits (e.g., improved air quality through reduced vehicle-miles-traveled).

I-005-002

See response to Comment I-005-001 above.

I-005-003

As discussed in Chapter 1, *Proposed SWSA Redevelopment Program*, land uses other than rental car operations and commercial parking are not being considered at the SWSA because, due to current and projected demands, the best and most efficient use of the site is to

continue as a fully integrated ground transportation operation that supports the airport. Underground parking levels are not feasible or cost-effective due to the high groundwater levels.

Bicycle facilities and pedestrian corridors with enhanced landscaping and connections to local parks will be provided as public amenities. Refer to Chapter 1 for further details.

September 26, 2008

ATTN: Ms. Anne Canaday, Environmental Analyst
617 626 1181

Secretary Ian Bowles
Executive Office of Energy and Environmental Affairs
Commonwealth of Massachusetts
100 Cambridge St
Boston, MA 02114

Dear Ms. Canaday:

I understood that the purpose being the comments submitted 1/08 re: CONRAC was to identify and provide mitigating efforts regarding this proposal. In reading through all the letters and comments there appears to be no change being considered, only quoting back to early MassPort documents.

I-006-001 | We would like to see additional studies and alternatives provided to the proposal.

On the surface, the idea of a consolidated facility appears rational. However, when the details are further probed and the responses read, it is clear that there are substantial environmental issues that were not even addressed in the responses. The responses to my in

We ask that additional study and consideration be provided to the following.

I-006-002 | -- Increased air pollution and particulate generated by having such a high concentration of cars 60-80 feet from a residential area. This concern includes: the number of cars traveling and idling, the concentration of increased pollution and particulates in the proposed garage with no ventilation system. As noted in studies submitted by Wig Zigler, there is substantial evidence of the highly negative, impact of these kinds of pollutants.

I-006-003 | At the least this proposal should provide glass-enclosures on the side facing Maverick St., similar to the design on the MassPort parking garage on Harborside Drive.

I-006-004 | -- that the proposed increased 3,000 parking spots are not in keeping with the spirit or letter of previous agreements to freeze the number of parking spots.

I-006-005 | -- Any discussion of additional parking spaces should be separated from the consolidation of the rental cars to control pollution and increased traffic in a residential neighborhood. If the concept of additional parking is to be entertained it should be in another location

I-006-006 | -- the proposed traffic flow will have a substantial negative impact on the community, virtually cutting off this access to the Ted Williams Tunnel and creating a highly congested area during the peak rental time.

I-006-007 | -- Containment and mitigation for the increased gasoline and other products that could accidentally spill and get into the sewers and waterways -- Boston Harbor is only one block away

Thank you for your time and consideration.

Sincerely,


Susan Plunkett
383 Maverick St.
East Boston, MA 02128

I-006-001

Chapter 1, *Proposed SWSA Redevelopment Program* discusses the alternative sites evaluated previously for the Program. Consistent with the Purpose and Need, the SWSA was identified as the preferred site for a consolidated rental car facility because it is the only on-airport parcel, compared to the other sites evaluated, that:

- Is large enough to efficiently and adequately accommodate the long-term transportation, parking and access demand for rental car operations based on current and future air passenger growth at Logan Airport, which requires at minimum of over 45 acres to accommodate the anticipated rental car demands in a limited height Garage Structure.(The NSA is only approximately 9.5 acres total and the Robie Parcel is only approximately 7.6 acres total – both of which are programmed for other airport-related operations/uses.)
- Would make efficient use of available on-airport land;
- Would make efficient use of access to main airport circulation roadways, terminals and the regional highway network providing excellent ground access;
- Would utilize existing airport ground transportation infrastructure;
- Would follow sustainable/LEED criteria through the ability to facilitate pedestrian, bicycle and transit accessibility by locating the facility within walking distance to public transportation; and
- Would provide environmental benefits (e.g., improved air quality through reduced vehicle-miles-traveled).

I-006-002

As described in Chapter 4, *Air Quality and Noise*, the air emissions associated with the SWSA ConRAC facility, including those attributable to moving and idling motor vehicles, have been assessed and were reported upon. The mesoscale analysis evaluates the effects of the project on emissions of nitrogen oxides (NOx) and volatile organic compounds (VOCs); the microscale analysis predicts ambient ("outdoor") levels of carbon monoxide (CO) and particulate matter (PM) at an array

COMMENTS TO 1/23/08 LETTER RESPONSES

I-006-008	<p>I-007-001 My comment here was not addressing the visual issue as your response suggests. It was addressing the increase at a very close range - of air pollutants, increased traffic, noise and safety. The response provided did not address this.</p>
I-006-009	<p>I-007-002 Given that the building would be 50 feet away from my home, as well as the other residential properties on Maverick St -- and being and 5 stories tall -- on the east side of my house there certainly will be increased shadows, decreased sight lines and decreased privacy as the garage users will be able to look directly into my house as well as my neighbor's homes. Relocation of the building to the far side of the footprint, on Harborside Drive side, will prevent this from impacting on any immediate residential properties.</p>
I-006-010	<p>Please provide rationale as to why the option of locating this facility on the inside band of the footprint, on Harborside Drive, is not being considered</p>
I-006-011	<p>I-007-003 Please provide the data that supports this statement</p>
I-006-012	<p>I-007-005 Please explain why the Stadium (which has very limited and seasonal use) is afforded a larger buffer property than a heavily congested residential area</p>
I-006-013	<p>I-007-006 This response does not address the increased -- and highly concentrated -- pollution that will be centralized 80 feet from residential area.</p> <p>We request that additional environmental impact studies be conducted regarding this location</p>
I-006-014	<p>I-007-008 This is an option to limit the height to the 3 levels dedicated to the consolidation and eliminate the 2 additional parking levels.</p> <p>Additionally, different design considerations would enable you to consider other locations within the MassPort property if you limited it to the consolidated rental cars</p> <p>We not believe these additional parking space requests meet neither the spirit nor the letter of earlier agreements and law that determined a freeze and ceiling on the number of parking spaces at Logan</p>

of receptors located in the Memorial Stadium recreational area to the north, the Jeffries Point neighborhood to the south and the Gove Street neighborhood to the west; and the "hot-spot" modeling of CO was performed at the Harborside Drive intersections with Porter Street, Jeffries Street, and Hotel Drive. In all cases, the project-related emissions and the resultant concentrations were well within the state and federal guidelines.

A Wind Analysis was also conducted that evaluated the effects of the site layout and building design on local wind patterns in areas that adjoin the project site.

Massport shall post motor vehicle idling restriction signs in all loading and drop-off areas within the project site in accordance with Massachusetts General Law (MGL), Chapter 90, Section 16A, 310 Code of Massachusetts Regulation (CMR), Section 7.11 and MGL, Chapter 111, Sections 142A – 142M (The Massachusetts Anti-Idling Law).

I-006-003

Chapter 1, *Proposed SWSA Redevelopment Program* provides additional information about design criteria and approach, including the technical and environmental criteria for the Garage Structure.

I-006-004

As presented in the 2009 NPC, the SWSA Redevelopment Program no longer includes the commercial parking component of the Garage Structure.

	I-007-013 There is already a consolidated bus being run for Alamo and National
I-006-015	I-007-014 We request additional environmental study on the impact of this circulation pattern on the residential neighborhood, specifically at rush hour. This should include the volume and flow of traffic as well as the pollution impact. This proposed traffic flow will have a significant negative impact on the community.
I-006-016	I-007-019 This response notes the improved circulation for the MassPort traffic but does not address the impact on the community. We would like clarification of studies which show the impact on the residential traffic and suggested mitigations.
I-006-017	I-007-024 Given that the current regulations regarding idling are enforced in neither the taxi pools nor the limo lot we do not believe that this to be true and request further study.

I-006-005

See response to Comment I-006-001 above.

I-006-006

Refer to Chapter 3, *Surface Transportation*. Great care has been given to the design of the interface between the Maverick Street Gate and Tomahawk Drive. While traffic volumes on Hotel Drive Extension will be higher than current traffic on Tomahawk Drive, the Hotel Drive Extension and Maverick Street Gate intersection is projected to operate at an acceptable LOS C under Future Build Conditions. Additionally, the reconstruction of Jeffries Street and the Harborside Drive and Jeffries Street intersection will result in reduced vehicle queues and delays experienced by neighborhood traffic accessing the Ted Williams Tunnel.

I-006-007

Spill containment and other pollution prevention measures for the QTA fueling facilities will be incorporated during final design, which would be an improvement over the existing and future no-build conditions. The fueling facilities will be designed in accordance with best practices, taking into account fire-code requirements as well as their proximity to Boston Harbor and other sensitive receptors. Measures to be evaluated will include canopies over fueling islands, impervious slabs and positive limiting barriers in the fuel dispensing areas, which will be coordinated with site grading to form an integrated containment system and perimeter drains discharging to oil/water separator systems in the delivery area. Spill-response and containment kits will be required at all fueling facilities.

I-006-008

Refer to Chapter 7, *Beneficial Measures/Draft Section 61 Findings* for a comprehensive summary of the proposed measures aimed at

January 23, 2008

SECRETARY ION BOWLES
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
COMMONWEALTH OF MASSACHUSETTS
700 STATE STREET, 900
BOSTON, MA 02114-2304

RE: MASSACHUSETTS PORT AUTHORITY DESIGN LOGAN INTERNATIONAL AIRPORT
SOUTHWEST SERVICE AREA REDEVELOPMENT PROGRAM

RECEIVED
JAN 23 2008
EIR/EA

Dear Secretary Bowles:

The following comments are being submitted in response to the Environmental Notification Form (ENF) concerning the proposed ConRAC facility at the Southwest Service Area Redevelopment Program at Logan International Airport, submitted to the Massachusetts Port Authority (MassPort) on November 14, 2007.

I am a homeowner immediately across from the proposed garage location, and have spoken with many of my neighbors who live in the same area. They are all concerned about the proposed construction and the impact it will have on the community. In particular, I request responses to comments related to the proposed construction of a well-established residential area.

As stated in the Massachusetts Environmental Policy Act of 1972 (Stature - M.G.L. c.30A, ss.93-93H, Regulations - 301 CMR 11.00 (rev. 1998)), MPEPA provides an opportunity for public review of environmental impacts of projects for which a state agency action is needed. Additionally, MassPort has a duty to consider the environmental impacts of its projects and to provide information on the environment and the surrounding community, and to suggest some alternatives for concepts proposed.

Although there are many areas of concern, primary areas addressed in this document include the following: location, nature and height of the proposed garage; rationale, feasibility and legitimacy of adding a building to the existing ConRAC facility; and the potential for increased traffic and noise impacts on the surrounding community.

Proposed Garage (location, nature and height)
The extent and environmental impact of this proposed garage cannot be understated. Imagine having a 5-story working garage literally 70-80 feet from your front door, with literally tens of thousands of cars and multiple numbers of "car lifts" 24/7 right outside your living room and bedroom windows.

If there has not been a consolidated rental car facility (not to suggest that I agree with this working plan), then the proposed plan that a number of levels.

Why the current proposal locates this 5-story 24/7 working garage within 70 feet of a well-established residential area. There are other facilities that must be considered, such as: "renting" the design to the facility (and the rental car access points) from Harbor Drive and from well-established residential neighborhoods.

The impact of the proposed building garage's height on the amount of sunlight able to shine on residential property should be studied and minimized by limiting the height of the structure to

addressing potential environmental impacts, including reducing traffic and air quality impacts (e.g., Unified Bus System), minimizing noise impacts (e.g., facade treatments, screened vehicle ramps, and noise barriers in the form of solid walls/fences and landscaped berms), and enhancing safety (e.g., enhanced pedestrian facilities).

Additionally, the Garage Structure has been shifted further away from the residential area along the eastern end of Maverick Street to the greatest extent feasible opposite the existing noise barrier, which would reduce noise as well as air emissions, light and/or visual impacts. Because of this change, sound paths from the Garage Structure to the residences are farther such that they are comparable to the paths from the existing parking lot. As a result, noise level from events such as car alarms are not expected to increase under the further Build Conditions. However, Massport is committed to facade treatments for the western and southern sides of the Garage Structure (those sides that face the community), which would screen noise, visual impacts, and air and light emissions.

I-006-009

The project design team evaluated shadows associated with the proposed ConRAC facility and concluded that due to the location of the building (north of Maverick Street, east of Gove Street, and distance from Memorial Stadium Park) position relative to the sun, and the massing of the structure, that there would be no impact from building shadows.

I-006-010

See the response to Comment I-006-001 above.

I-006-011

The project design team evaluated shadows associated with the

I-007-002	three stories a tower relocating the latest portion(s) of the building furthest away from Maverick Street.
I-007-003	The impact of the ability for residents in homes as high as three stories to view sky to the proposed parking garage to three stories and/or relocating the latest portion(s) of the building furthest away from Maverick Street.
I-007-004	Even though MassPort is not subject to the City of Boston's zoning restrictions on building height, being so close to a municipal residential area these restrictions should be evaluated, considered, and respected within a reasonable buffer distance between city and state property.
I-007-005	The large buffer of Memorial Stadium Park would mitigate the impact of a taller structure in that location. Shifting the entire structure could also afford other benefits related to alternate entrance and exit routes for residents, minimization of noise and light pollution, etc.
I-007-006	There are many additional locations that were not considered (or were not presented as part of the proposal) that could be explored. For example, the proposed parking garage at HarborSide Drive, creating a garage at the existing Cell Phone Lot, and many other locations.
I-007-007	Additionally, there are other considerations not explored including the space in Chelsea where current MassPort employees park. This is an area that must be explored further.
I-007-008	If there must be a consolidated rental car facility, then this facility must be a lower profile to reduce impact on the neighborhood.
I-007-009	The design must also factor in safety, air quality, light, noise, dirt/particulate controls within the garage facility (see below).
I-007-010	Rationale, legality and legitimacy of adding additional commercial parking spaces. This proposed garage must separate the request for the consolidated rental car facility from MassPort's request to add an additional 3,000 commercial parking spaces. Although MassPort states that the request to add additional 3,000 parking spaces is within the letter of the law regarding parking space caps, I strongly disagree. It does not meet the letter nor the spirit of the law related to the parking cap. Adding 3,000 more parking spaces also runs contrary to current mass transit best practices which encourage LESS people drive to the airport, and more MORE resources and strategies to support public transit. Neighborhood safety must also be taken into account by locating the facility so close to residents. - Request for three stories and/or relocating the latest portion(s) of the building furthest away from Maverick Street. - Request for three stories and/or relocating the latest portion(s) of the building furthest away from Maverick Street. - Request for three stories and/or relocating the latest portion(s) of the building furthest away from Maverick Street. - Request for three stories and/or relocating the latest portion(s) of the building furthest away from Maverick Street.
I-007-011	If MassPort is ultimately allowed to increase the number of commercial parking spaces (this is presented as part of the City such as, building up where the new proposal suggested putting the taxi lot, adding to garage at HarborSide Drive, creating garage at the existing Cell Phone Lot, and many, many other locations).

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proposed ConRAC facility and concluded that due to the location of the building (north of Maverick Street, east of Gove Street, and distance from Memorial Stadium Park) position relative to the sun, and the massing of the structure, that there would be no impact from building shadows.

I-006-012

Chapter 1, *Proposed SWSA Redevelopment Program* describes the proposed landscaping for the Program, including the Phase 2 SWSA Airport Edge Buffer. Refer to Figures 1.10 and 1.11 for the proposed landscaping plan and treatment types, respectively. In 2003, Massport provided land to the City of Boston for the Memorial Stadium Park expansion. No additional buffer area other than enhanced landscaping is proposed for the northern edge of the SWSA.

I-006-013

As discussed in Chapter 4, *Air Quality and Noise*, the potential air quality impacts in the immediate neighborhood surrounding the SWSA have been assessed and reported upon. In particular, the microscale analysis predicts ambient ("outdoor") levels of carbon monoxide (CO) and particulate matter (PM) at an array of receptors located in the Memorial Stadium recreational area to the north, the Jeffries Point neighborhood to the south and the Grove Street neighborhood to the west. In addition, intersection "hot-spot" modeling of CO was performed at the Harborside Drive intersections with Porter Street, Jeffries Street, and Hotel Drive. In all cases, the resultant concentrations were well within the State and National Ambient Air Quality Standards (AAQS) - levels established by the U.S. EPA to protect public health, welfare and the environment. A pedestrian wind analysis was also conducted that evaluated the effects of the site layout and building design on local wind patterns in areas that adjoin the project site.

I-007-019	Massport asked one reason they want to extend Hotel Drive (through the current bus and truck lot to connect to Tomahawk Drive) would be to improve traffic flow. This doesn't make sense, because rental cars would be coming from the Ted Williams Tunnel or Colishan Tunnels, neither would be accessed from Hotel Drive.
I-007-020	Material Safety The safety risks in storing such increased large amounts of gasoline, oil, and other combustible and/or explosive materials in the EDVA in such close proximity to residential areas in East Boston should be studied, analyzed, and mitigated.
I-007-021	Operational Pollution There are significant potential environmental impacts related to wetlands, air, noise, light, and other resources. The project should include safety regulations and compliance with local, city and state environmental and building permitting and code requirements. There is not the scientific data that fine particulate pollution exponentially increases health problems for those located close to major highways (desires to follow). This includes increases in asthma, heart disease, lung cancer, chronic obstructive pulmonary disease, lung cancer, cardiovascular disease, to name a few. And East Boston, Jeffries Point in particular already has shown an existing pattern of increased medical problems. Given the preponderance of scientific evidence, a better rationale via be required to explain why such a substantial project - literally at our doorstep - should be allowed to go forward. This requires detailed study and mitigation provided. Whatever facility is built, it MUST: - be designed to capture air and particulate pollution to the neighborhood together, since this will be literally a couple of blocks from the homes) - NOT count towards the ceiling of allowable parking spots (and therefore has the potential of NOT being factored into the overall environmental impact). A study specific to this must occur, evaluated and program options must be provided. There is great concern for rental cars to be idling while waiting to enter or exit the proposed facility. The amount of exhaust generated by these rental cars should be estimated, quantified, and minimized. The EPA has advised its air pollution models (i.e. related to the output of idling cars), in particular cold starts vs. warm starts, with cold starts exponentially higher. This must be thoroughly researched and the best most current thinking and standards put into effect in order to minimize the environmental and health effects of the proposal. The amount of exhaust from rental cars being started and/or being left idle within the proposed parking lot should be estimated and quantified, and appropriate ventilation and/or exhaust systems should be installed and also conducting appropriate ventilation, thus alleviating residential abatement from too significant an increase of harmful pollutants from the exhaust.
I-007-022	
I-007-023	
I-007-024	
I-007-025	
I-007-026	

1-165

I-006-014

See response to Comment I-006-001 above.

I-006-015

Chapter 3, *Surface Transportation* includes an analysis of the proposed intersection of Tomahawk Drive and Maverick Street Gate. While traffic volumes on Hotel Drive Extension will be higher than current traffic on Tomahawk Drive, the Tomahawk Drive and Maverick Street Gate intersection is projected to operate at an acceptable LOS C during Build Conditions. Additionally, the proposed reconstruction of Jeffries Street and the Harborside Drive and Jeffries Street intersection improvements will result in substantially reduced vehicle queues and delays experienced by neighborhood traffic accessing the Ted Williams Tunnel.

I-006-016

Chapter 3, *Surface Transportation* includes analysis of the proposed intersection of Tomahawk Drive and Maverick Street Gate. While traffic volumes on Tomahawk Drive will be higher than current traffic, the Tomahawk Drive and Maverick Street Gate intersection is projected to operate at an acceptable LOS C during Build Conditions. Additionally, the proposed reconstruction of Jeffries Street and the Harborside Drive and Jeffries Street intersection improvements will result in substantial reduced vehicle queues and delays experienced by neighborhood traffic accessing the Ted Williams Tunnel.

I-006-017

As discussed in Chapter 4, *Air Quality and Noise*, Massport shall post idling restriction signs in all loading and drop-off areas within the project site in accordance with Massachusetts General Law (MGL), Chapter 90, Section 16A, 310 Code of Massachusetts Regulation (CMR), Section 7.11 and MGL, Chapter 111, Sections 142A – 142M (The Massachusetts Anti-Idling Law).

X-007-027 | The amount of noise generated by rental cars being stored and/or idling within the proposed Southwest Service Area is expected to be minimal. The amount of noise from the garage facility, including residential sources from this noise. The amount of noise from commercial activity within the parking garage and also the rental car service areas, such as public storage, car washes, and vehicle cleaning machinery, should also be estimated.

X-007-028 | The amount of light pollution at night by outdoor lighting around structures on the CORPAC facility including the proposed parking structure should be directed away from the residential abutment. Currently, lighting installed by Massport along Tomahawk Drive already shines directly into homes along Maverick Street unnecessarily. Lighting should be shielded from traveling beyond the Massport property line.

X-007-029 | Construction and Environmental Impact - also Impact on Residential Areas

X-007-030 | Detailed studies must occur, options considered, and mitigation proposed concerning the impact on areas such as: the water supply and water table, wetlands, air quality, debris transport and disposal, pollution generated by heavy equipment, impact and potential damage to the abutment's homes, etc.

X-007-031 | Better articulation of LEED / Sustainability strategies must be provided

Thank you for your time and attention to these comments. With a project of this magnitude, every detail counts. We look forward to your response regarding the environmental impact of this project, as well as the quality of life issues inherent in a project of this nature.

Sincerely,
Susan Phinck
Susan Phinck
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545

September 26, 2008

Secretary Ian Bowles
Executive Office of Energy and Environmental Affairs
Commonwealth of Massachusetts
Attn: MEPA Office, Anne Canaday
100 Cambridge Street, Ste. 900
Boston, MA 02114-2534



Re: Massachusetts Port Authority Boston Logan International Airport
Southwest Service Area Redevelopment Program
Draft Environmental Impact Report/Environmental Assessment
EEA No. 14137

Dear Secretary Bowles,

I am responding to the Massachusetts Port Authority's (Massport) Draft Environmental Impact Report/Environmental Assessment (DEIR/EA) concerning the proposed Southwest Service Area (SWSA) Redevelopment Program at Boston Logan International Airport filed on June 27, 2008. As an immediate abutter to Massport's property and the proposed project area on Maverick Street in East Boston, and having submitted comments previously in response to this project's Environmental Notification Form (ENF), please accept my comments with the weight of a justifiably concerned East Boston resident and citizen of the Commonwealth regarding the construction of a Consolidated Rental Car Facility (ConRAC).

It was my understanding that Massport must explore necessary mitigating features and/or efforts to minimize the impact of this proposed project on the environment and the surrounding community. It does not appear to me from information contained in the DEIR/EA that this will happen.

I-007-001 | In Massport's responses I-008-001/-002, they fail to particularly address why it is necessary to add the additional two stories on top of the three stories of the structure proposed to operate the ConRAC. These two additional stories have been designated for on-airport parking; not required for operation of the ConRAC. Any other locations within and around Massport property appear to remain unidentified as alternatives to adding these two unrelated stories to the main ConRAC structure. The maximum height of residential buildings in the area immediately abutting the proposed structure is three stories. Why are no greater efforts being made to redesign the structure to match this?

I-007-002 | In response I-008-003, Massport blatantly contradicts its stated goal of the entire project; to transfer as much airport-related activity from current off-airport locations to on-airport locations. How is this accomplished if the rental car companies state they intend to retain these off-site locations for vehicle storage and maintenance purposes? Where is the net gain to the community? If the goal is to be met, the community should see these off-site locations vacated of airport-related activity completely. Instead, it appears they will continue to see activity there, and others will see the increase in activity in the SWSA.

I-007-003 | Responses I-008-004/-005/-006 appear to validate the perception that Massport's views buffers as sufficient mitigation toward any and all activity and structures' impacts on surrounding residential neighborhoods. How does a landscape buffer mitigate a five-story building? Redesigning the main ConRAC structure so that the part(s) of the structure that are the tallest could be located the farthest

I-007-001

As discussed in the *Summary* chapter, a key benefit of the proposed program is the consolidation of rental car companies and, specifically, the consolidation of the rental car shuttle buses which is proposed to be combined with Massport bus routes (the Unified Bus System). The Unified Bus System would dramatically vehicle miles traveled by these buses.

I-007-002

As discussed in Chapter 3, *Surface Transportation*, all rental car customer service functions will be relocated to the new ConRAC facility so individual shuttle buses will no longer need to travel to the existing off-airport rental car company locations to pick up customers; therefore, reducing vehicle trips within the overall traffic study area under future Build Conditions compared to the future No-Build/No-Action Conditions.

The existing off-airport rental car properties are privately owned and Massport does not control the future use of those properties. The rental car companies have reported that they expect to retain these properties off-airport to be used for rental car fleet storage and maintenance, as needed.

I-007-003

Chapter 1, *Proposed SWSA Redevelopment Program* discusses the alternative sites evaluated previously for the Program. Consistent with the Purpose and Need, the SWSA was identified as the preferred site for a consolidated rental car facility because it is the only on-airport

I-007-003

away from the airport edge buffer would certainly be possible. The current design does *not* "reduce visual impacts by siting the garage structure away from the airport property line" as stated by Massport. The five-story section of the ConRAC structure is currently designed closer to the property line to the south, and is farther away from the property line to the north. The northern property line abuts a public park, not residences. As stated before, the southernmost half of the parking garage that is proposed to be built below the ConRAC customer service center, to the left of Jeffries Street, and above the proposed Hotel Drive extension should be considered for relocation to above Porter Street. The additional floors required could be extended over Porter Street, at sufficient height above the road to allow for vehicular traffic, and continued on top of the area designated to become the taxi pool. This would enable the entire parking garage structure to be physically located farther away from the residential areas on Maverick Street, with many benefits. The residential areas located to the north of the proposed taxi pool area already have a sufficient large buffer of Memorial Stadium Park to mitigate the impact of a taller structure in that location. Shifting the entire structure could also afford other benefits related to alternate entrance and exit routes for rental cars, minimization of noise and light pollution, etc. Simply, the argument that placing the tallest structure in its proposed location to minimize impact on the surrounding residential neighborhoods doesn't hold. The entire Jeffries Point neighborhood will be impacted by the five-story structure being placed against the southern property line, as Jeffries Point slopes uphill from Maverick Street all the way to Webster Street. Residents on Webster Street and in between on Sumner Street and Everett Street will be seeing a huge brick or concrete ConRAC structure instead of sky, open air, and the tops of trees.

I-007-004

I-007-005

Massport's response I-008-005 does *not* address the concern about the ability of residents on Maverick Street to look out their windows and see sky rather than a five-story brick or concrete parking structure. Citing that the garage will be set back from the property line does nothing toward mitigation of this concern. The only reason Massport has the garage set back from the property line is to maintain Tomahawk Drive. If the road didn't need to be there, it is hard to believe the garage would be set back any further than zero feet from the property line.

I-007-006

In response I-008-009, Massport cites current and future space needs of rental car companies. Have these 'needs' been independently examined and validated? Just within the past 90 days, two rental car companies have consolidated themselves in the SWSA. Alamo and National have combined their rental car pick-up/drop-off and maintenance operations into National's original footprint in the SWSA, and also combined their busing operations. Decreased airport traffic surely reduces the need to provide more rental cars to air travel passengers. And should Massport not be doing a better job of connecting to and encouraging the use of the City of Boston's public transportation options, including the MBTA, and other shared transport options such as Logan Express buses? The claim that there will be a significant enough increase in need for rental car company operations on-site is rightfully called into question especially after witnessing two existing rental car companies combine their own operations successfully.

I-007-007

I-007-008

With responses I-008-011/-012, concerns regarding the amount of noise generated by the ConRAC were not met with a promise to enclose the garage completely as Massport did with the Logan Office Center garage on Harborside Drive. The proposed main ConRAC structure would be located multiple times closer to the Jeffries Point neighborhood than the Logan Office Center garage. If noise concerns were valid during this project and mitigation by enclosing the garage completely was sufficient, the same if not more mitigation requirements should be imposed on the ConRAC project.

I appreciate your continued attention to the considerations I have raised regarding Massport's proposed construction project. If this entire project is in fact truly justified with overall passenger air traffic declining in the wake of higher fuel prices, of paramount importance should be limiting the height of the main ConRAC facility to three stories. Secondly, locating the highest parts of the structure as far away from Massport property lines/airport edge buffers as possible.

Thank you in advance for demanding on behalf of East Boston residents and the citizens of the Commonwealth that the mitigation necessary to alleviate the detrimental effects of this redevelopment

parcel, compared to the other sites evaluated, that:

- Is large enough to efficiently and adequately accommodate the long-term transportation, parking and access demand for rental car operations based on current and future air passenger growth at Logan Airport, which requires at minimum of over 45 acres to accommodate the anticipated rental car demands in a limited height Garage Structure. (The NSA is only approximately 9.5 acres total and the Robie Parcel is only approximately 7.6 acres total – both of which are programmed for other airport-related operations/uses.)
- Would make efficient use of available on-airport land;
- Would make efficient use of access to main airport circulation roadways, terminals and the regional highway network providing excellent ground access;
- Would utilize existing airport ground transportation infrastructure;
- Would follow sustainable/LEED criteria through the ability to facilitate pedestrian, bicycle and transit accessibility by locating the facility within walking distance to public transportation; and
- Would provide environmental benefits (e.g., improved air quality through reduced vehicle-miles-traveled).

I-007-004

Chapter 2, *Alternatives* of the 2008 Draft EIR/EA presented site layout alternatives, which were dismissed due to inefficient facility access/egress resulting in inefficient operations and, potentially, increased VMTs and, therefore, negative impacts on air quality.

I-007-005

As discussed in the 2009 NPC, Massport has revised the Program, including removal of the commercial parking component; therefore, reducing the height and overall size of the Garage Structure. Also, as design has progressed, the Garage Structure has been shifted further away from the airport property edge. Refer to Figures 1.17a through 1.17c for revised community views.

program on the surrounding community will be properly provided for.

Regards,



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JR:jr

I-007-006

Current and future space needs of the rental car companies have been and continue to be carefully surveyed and analyzed by each rental car company and by Massport. PGAL -- the RAC operations specialists for the Program -- have been directly involved with and responsible for the planning and programming of over a dozen other RAC related projects and consolidated facilities. This company is familiar with the programming and "real" spatial requirements for a market the size of that at Logan Airport. Therefore, the SWSA Redevelopment Program has been sized accordingly and will allow for greater efficiency of on- and off-airport rental car operations.

I-007-007

As described in Chapter 1, *Proposed SWSA Redevelopment Program*, the Program includes extensive pedestrian and bicycle improvements that will provide enhanced connectivity between the MBTA's Blue Line Airport Station and the SWSA facilities and adjacent East Boston neighborhoods. Additionally, the proposed Unified Bus System would directly link the ConRAC Facility to Airport Station by combining RAC shuttle bus and Massport bus operations. In an effort to further promote transit usage, Massport recently worked with the MBTA to install 13 automated Charlie Card fare payment systems throughout the airport and extensively advertised the Logan Express service in regional and local newspapers, and on radio outlets.

I-007-008

Chapter 4, *Air Quality and Noise* presents an evaluation of enclosing the Garage Structure.

As presented in Chapter 7, *Beneficial Measures/Proposed Section 61 Findings*, several noise abatement measures are being incorporated into

the SWSA Redevelopment Program to minimize the transmission of noise from activities in the SWSA to the community. Additionally, the Garage Structure has been shifted further away from the residential area along the eastern end of Maverick Street to the greatest extent feasible opposite the existing noise barrier. Therefore sound paths from the Garage Structure to the residences are farther such that they are comparable to the paths from the existing parking lot. As a result, noise level from events such as car alarms are not expected to increase under the further Build Conditions. However, Massport is committed to facade treatments for the western and southern sides of the Garage Structure (those sides that face the community), which would screen noise.

The primary objective for installing a solid side on the Logan Office Center parking garage was not to reduce noise from vehicle activity in the garage, but to minimize the noise from aircraft taxi operations from getting through the garage to the Jeffries Point community. The SWSA Garage Structure would act as a noise barrier to the community by buffering the Taxi Pool and airport roadways and aircraft activities located across Harborside Drive.

Comment letter from Fred Salvucci to MEPA Unit

Re: ConRAC EEA #14137

The report filed by Massport seems to include no serious analysis of the local parking freeze, and the adverse regional impact caused by increased auto vehicle miles of travel and auto vehicle hours of travel in the Boston metropolitan area. Even if the region achieves attainment, under the principle of non-degradation, Massport should not be allowed to backslide on its SIP commitments.

Massport's central argument, in avoiding analysis of the impact of the 3,000 parking spaces for the general public in the garage, is that 3,000 spaces have just been relocated from other spots at the airport. It appears that Massport has incrementally added 3,000 spaces to Logan over the last several years, in increments below the MEPA threshold but totalling 3,000 spaces, well above the MEPA threshold, which have never been scrutinized under MEPA either as to their regional impact or their impact on adjacent communities. They now seek to avoid serious review of the regional and local impacts based upon the argument that there is no net new impact (beyond what their stealth increase has already caused). This totally evades the scrutiny the MEPA regulations are supposed to provide to protect public health and the environment. Since they are now proposing to commit very serious irretrievable resources of land and money to permanently consolidate these 3,000 spaces in a specific location, the cumulative impact of this substantial incremental expansion should be evaluated now. Even if the removal of the 3,000 spaces is not a likely alternative, the mitigation that might be appropriate for the addition of those spaces is certainly an important issue. If MEPA allows this substantial expansion to avoid serious review, it will permit a serious loophole in the regulation, to the detriment of the public, both in this instance and in any number of future

I-008-001

As presented in the 2009 NPC, the SWSA Redevelopment Program no longer includes the commercial parking component.

I-008-002

Massport reports on the cumulative effects of Logan Airport's operations and activities through the annual Logan Airport Environmental Status and Planning Reports (ESPRs) and Environmental Data Reports (EDRs) dating back to 1993. ESPRs are intended to provide a broad planning context for Logan Airport, as well as to provide information on current environmental conditions for the reporting year compared to previous years. EDRs, which are prepared annually in the interval between ESPRs, provide a snapshot of environmental conditions for the reporting year compared to the previous year. Massport also submits bi-annual reports to DEP documenting compliance with the Logan Airport Parking Freeze.

situations throughout the Commonwealth where project development might evade MEPA scrutiny by such a piecemeal approach.

Since the driving public is already using the 3,000 spaces, and Massport is receiving that revenue, there is no harm in delaying this project to fully evaluate the impacts (and appropriate mitigation of the impacts). Indeed, given the fiscal condition of transportation in the Commonwealth, since these 3,000 spaces will bring no net revenue to offset the considerable construction cost involved, the fiscal impact of the proposed facility should get careful scrutiny now.

The Logan parking freeze was adopted in the early 1970s in recognition of the increased vehicle miles of travel caused by parking at Logan, to encourage use of transit and Logan Express access to Logan, and thereby mitigate the congestion caused by autos destined to Logan interacting with other regional auto traffic, leading to increased vehicle hours of travel not only for the autos destined to Logan but for other regional travel as well. For this reason, the increase in air pollution caused by Logan parking should be measured not by vehicle miles of travel to Logan, but by the increased vehicle hours of travel, both Logan-bound autos and regional travel.

The strengthening of the Logan parking freeze in the early 1990s was a mitigating measure for the Big Dig, destined to avoid the recreation of congestion that the Big Dig was intended to reduce, and to reduce congestion on radial highways outside of the downtown by encouraging remote parking Logan Express and public transit access to Logan.

Massport's EIR does not deal with this issue except with the oblique reference on pp 12-23 ("However, the demand for commercial parking spaces would continue to rise due to increases in air passenger levels and the lengthening of the average stay of parkers ..."). This implies a methodology of deliberately avoiding the regional impact of adding 3,000 spaces to

I-008-003

As presented in the 2009 NPC, the SWSA Redevelopment Program no longer includes the commercial parking component.

I-008-003

Logan, when the intent of the regulation has always been to avoid the increased vehicle hours of travel by encouraging Logan Express and transit to absorb the growth in demand.

The MBTA has expended large amounts of money to increase Blue Line capacity by 50%, and extend the Silver Line to Logan, and the Big Dig spent substantial sums on HOV priority to facilitate services like Logan Express, but by proposing to make those 3,000 parking spaces permanent, Massport is undercutting those efforts.

In addition, on pp 4-43 to 4-46, Tables 4-14, 4-15, and 4-16, they present a case that the 3,000 pace commercial parking portion of ConRAC is only a relocation of existing small surface lots previously used to manage surges in demand (the largest single example is 1,233 stacked spaces in the Central Garage, so they analyze only VMT within the airport, not regional VMT.

I-008-004 The data in the Massport document claiming reduced air pollution as a result of the ConRAC appear to consider only very local VMT within the airport, and not address the much larger regional issue.

I-008-005 The alternatives considered do not include separating the location of the commercial parking from the rental car area, which could increase the flexibility to locate the rental car facility in the Robie area, and defer or eliminate the 2,000 car commercial parking facility, conserving the southwest area for interim staging and long-term planning, thereby removing the dangerous ultra-fine particle generation associated with ConRAC from the close proximity of residents at Maverick Street.

I have reviewed the Massport “responses” to my ENF letter, and they do not respond to the substance of my January 23 comments, so I am enclosing, for MEPA consideration, a copy of my ENF comments, and request that they be reviewed as such.

Massport is attempting to greenwash a project (ConRAC) that simultaneously threatens increased adverse public health impacts on local residents, and equally important, misses

I-008-004

The VMT and air quality analyzes presented in Chapter 3, *Surface Transportation* and Chapter 4, *Air Quality and Noise*, respectively, include the evaluation of rental car and car shuttling activities in Chelsea, East Boston, and Revere. The Logan EDR/ESPR process evaluates the broader community and regional impacts of Logan Airport operations.

I-008-005

Chapter 1, *Proposed SWSA Redevelopment Program* discusses the alternative sites evaluated previously for the Program. Consistent with the Purpose and Need, the SWSA was identified as the preferred site for a consolidated rental car facility because it is the only on-airport parcel, compared to the other sites evaluated, that:

- Is large enough to efficiently and adequately accommodate the long-term transportation, parking and access demand for rental car operations based on current and future air passenger growth at Logan Airport, which requires at minimum of over 45 acres to accommodate the anticipated rental car demands in a limited height Garage Structure.(The NSA is only approximately 9.5 acres total and the Robie Parcel is only approximately 7.6 acres total – both of which are programmed for other airport-related operations/uses.)
- Would make efficient use of available on-airport land;
- Would make efficient use of access to main airport circulation roadways, terminals and the regional highway network providing excellent ground access;
- Would utilize existing airport ground transportation infrastructure;
- Would follow sustainable/LEED criteria through the ability to facilitate pedestrian, bicycle and transit accessibility by locating the facility within walking distance to public transportation; and
- Would provide environmental benefits (e.g., improved air quality through reduced vehicle-miles-traveled).

significant opportunities to improve regional air quality, in particular, the opportunity to complement the city taxicab hybrid requirement with a local rental car hybrid requirement. I urge EOEa to reject the ConRAC DEIR as inadequate, and initiate a re-scoping for a supplemental DEIR.

Sincerely,
Fred Salvucci
Brighton, MA
617-254-0266
salvucci@mit.edu

Canaday, Anne (EEA)

From: Wig Zamore [wigzamore@rcn.com]
Sent: Monday, September 29, 2008 9:22 AM
To: Canaday, Anne (ENV)
Cc: 'Wig Zamore'
Subject: EEA 14137 Logan SWSA Comment

Attachments: Picture (Device Independent Bitmap); Picture (Device Independent Bitmap); Picture (Device Independent Bitmap); Picture (Device Independent Bitmap); Picture (Device Independent Bitmap); Picture (Device Independent Bitmap); Wig Zamore 09 29 08 Comment on DEIR for Logan SWSA Redevelopment ED.doc

LATE COMMENT

Wig Zamore
13 Highland Ave #3
Somerville MA 02143

Logan Health Study CAC (DPH)
Logan Airport CAC (Noise Study)
MBTA Rider Oversight Committee
MAPC MetroFuture Steering Committee
Somerville Transportation Equity Partnership
Mystic View Task Force (of Somerville)
Move Massachusetts Board

617-625-5630

RECEIVED
SEP 29 2008
MEPA

wigzamore@rcn.com

September 29, 2008

Ian Bowles, Secretary EOEEA
Attn: Anne Canaday, MEPA Analyst
100 Cambridge Street, Suite 900
Boston MA 02114-2524

Via Email: anne.canaday@state.ma.us

Re: DEIR Southwest Service Area Redevelopment Program
At Boston-Logan International Airport

EEA #14137

Dear Secretary Bowles,

Thank you for the opportunity to comment on the Draft EIR for this project. As the DEIR has been non-responsive to both my own and the Massachusetts DPH EENF comment letters, I am appending below my earlier letter in the hopes that the critical issues of near source transportation pollution exposures and local public health will be addressed more forthrightly in the FEIR. Currently large project proponents, MEPA and DEP are ignoring the very large health effects of primary transportation emissions from regional scaled nodes and corridors - highways, airports, ports, heavy diesel rail and diesel trucking.

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In so doing you are leaving many tens of thousands of Massachusetts residents utterly unprotected from the most serious environmental health impacts we currently face as a metropolitan area, including the future neighbors of the SWSA garage in East Boston. I do hope to meet informally with Massport and their consultant team in the near future to discuss alternatives that MassPort might pursue. They have reached out responsively to set-up this discussion, which opportunity I greatly appreciate.

I-009-001

It would be quite helpful if you could request, in your FEIR scope, a short number of serious alternatives analyses to be professionally investigated and published in the FEIR, which might directly address the public health mitigation levels that could be attained through relocation of this parking facility, through the full enclosure of this parking facility or through the use of cost effective passive project design elements to lessen the mobile exposures that will otherwise fall upon the Jeffries Point neighborhood.

Most Respectfully, Wig Zamore

I-009-001

Chapter 1, *Proposed SWSA Redevelopment Program* includes a discussion of the siting process, including the evaluation of other on-airport and off-airport options. Chapter 4, *Air Quality and Noise* presents an evaluation of fully enclosing the Garage Structure. This discussion includes proposed screening techniques for the Garage Structure that would be used to address noise and light emissions as well as reducing particulate matter.

January 23, 2008

Ian Bowles, Secretary EOEAA
Attn: Anne Canaday, MEPA Analyst
100 Cambridge Street, Suite 900
Boston MA 02114-2524

Via Email: anne.canaday@state.ma.us

Re: ENF Southwest Service Area Redevelopment Program
At Boston-Logan International Airport

EOEAA #14137 - Note though not visible in printed material, others are using this number.

Dear Secretary Bowles,

Thank you for the opportunity to comment on the proposed Southwest Service Area (SWSA) Redevelopment Program at Boston-Logan International Airport (Logan).

Logan Airport is a very large regional transportation facility, with proportional airside and groundside air emissions. It lies next to a dense residential community with a large environmental justice population. With over 9,000 parking spaces and a 2.5 million square foot garage, the major issue raised by the SWSA Redevelopment is primary air pollution that will be generated by future operations and its impact on the health of residents within 500 meters of the project boundary, especially those living within 100 meters.

I-009-002

Primary mobile emissions, those either existing in exhaust pipes or forming within a few minutes due to rapid cooling and dilution during the adjustment to ambient conditions, have very steep concentration gradients and therefore uniquely impact those who live or work or go to school nearby. This includes those who live south and west of the proposed project, directly in harms way. The emissions of greatest concern are ultrafine particles (UFP) and particle bound polycyclic aromatic hydrocarbons (PPAHs).

I-009-003

Before proceeding with more specific comments of concern on the project and the aerosol science and health impacts of primary mobile pollutants, I do want to compliment the proponents on many of their mitigation ideas - including the consolidation of on property bus routes at Logan, the concentration of new traffic increases onto Harborside Drive and the full slate of sustainable site and building features that will lessen environmental impact. These are important initiatives that are to be commended.

During the 1950s and 1960s - as Americans built highways, bought cars and enjoyed the fruits of post-WWII prosperity - physicians and public health professionals became increasingly concerned with the health impacts of pollution from both industrial and mobile sources. Several acute pollution episodes in the US and Europe sharpened awareness. Reports from physicians noted higher cardiopulmonary disease levels close to large sources and health studies contrasting urban and rural populations concurred.

Following the creation of EPA and passage of the Clean Air Act amendments of 1970, electric power generators and industry were specifically targeted to reduce their contributions to regional air pollution but mobile sources also came under scrutiny. Mobile pollutants of major concern included lead, carbon monoxide and total suspended particulates, all of which had very steep local gradients, as well as ozone pre-cursors, which were generated locally but contributed to regional secondary pollution patterns.

Accordingly, when the National Academy of Sciences produced its major 1974 report on mobile emissions for

I-009-002

As described in Chapter 4, *Air Quality and Noise*, the potential air quality impacts in the immediate neighborhood of the SWSA have been assessed and reported. In particular, the Microscale Analysis predicts ambient ("outdoor") levels of carbon monoxide (CO) and particulate matter (PM) at an array of receptors located in the Memorial Stadium recreational area to the north, the Jeffries Point neighborhood to the south and the Gove Street neighborhood to the west. In addition, intersection "hot-spot" modeling of CO was performed at the Harborside Drive intersections with Porter Street, Jeffries Street, and Hotel Drive. In all cases, the resultant concentrations were well within the State and National Ambient Air Quality Standards (AAQS) --levels established by the U.S. EPA to protect public health, welfare and the environment.

I-009-003

Refer to Chapter 4, *Air Quality and Noise* for a discussion on how emissions from "cold starts" were considered in the air quality analysis. There are presently no State or Federal Ambient Air Quality Standard (AAQS) for ultra-fine particulate matter (PM0.1) or particle-bound polycyclic aromatic hydrocarbons (PPAHs) nor any EPA-recommended modeling methods for these pollutants and, therefore, they were not directly assessed. However, both PM10 and PM2.5 were modeled and reveal no violations of the AAQS for these pollutants. Because PM0.1/PPAHs and PM10/PM2.5 have some distinct similarities in terms of their origins and transport, similar trends would be expected for the ultra-fine particles and particle-bound polycyclic aromatic hydrocarbons.

I-009-004

See response to Comment I-009-003.

the Senate Public Works Committee, the academic experts - who had created an integrated model for Los Angeles and Boston of land use, transportation, air quality and public health - noted that the worst tactic that could be used to reduce regional air pollution was to concentrate population. The reason for this was simple. More people would be exposed to very harmful levels of primary mobile emissions.

In the following several decades, the removal of lead from gasoline and John Mooney's invention of the three way catalyst reduced the level of concern regarding primary mobile emissions. Focus shifted more directly into dealing with intractable secondary concentrations of ozone and fine particulate matter. As prosperity pushed energy consumption, and especially pushed vehicle miles traveled, control of volatile organic compounds and nitrogen oxides from mobile sources was especially difficult.

Massachusetts is the largest state in the US to have had all of its land area continuously in violation of the US ozone standards since 1970. The populations of the northeast and California continue to have trouble with control of seasonal ozone. But ozone levels are lower in the presence of nitrogen oxide from mobile sources, and not a disproportionate issue in the urban core. Then in the 1990s credible cohort studies shifted national focus to the association of fine particles - those under 2.5 micrometers in diameter - and cardiopulmonary mortality rates. This raised another regional alarm, due to secondary PM2.5 levels.

I-009-004

It turns out, however, that the secondary particulate matter that dominates regional PM2.5 inventories - such as residual sulfates, nitrates and ammonium - are not nearly as deadly as freshly emitted primary PM2.5 which includes much higher levels of organic toxics including PPAHs. It also turns out that the very smallest particles within the PM2.5 fraction, the UFPs, are disproportionately responsible for the most serious public health impacts of mobile pollution, including excess lung cancer and heart attack deaths.

I am appending immediately below notes to testimony I gave last July at the State House regarding the health impacts of highway pollution on very nearby neighborhoods. The peer-reviewed studies listed are relevant to neighbors of the proposed Logan SWSA Redevelopment. In the absence of greater mitigation, MEPA should expect these neighbors to experience, as a result of this project, higher than normal levels of asthma and lung capacity decrement, as well as COPD, lung cancer and cardiopulmonary mortality.

Particulate Matter from Regional Transportation is an Undisputed Local Health Problem
July 25, 2007 HEARING – Joint Committee on Public Health, Commonwealth of Massachusetts
Notes for Testimony by Wig Zamore

Introduction

Many people have been surprised to learn that control of fine particulate air pollution represents over 85% of the net benefit over costs available from all Federal regulations, environmental and other (US OMB last four Reports to Congress). Current US fine particle standards are aimed at moderate control of regional pollution levels. However, available science recognizes that local and near source variations in particulate matter are associated with far higher levels of health impact than between region differences. As societies mature, the major particulate sources of concern move from indoor open fires for heating and cooking, to heavy industry and dirty power plants, to mobile sources. Particle levels and health impacts adjacent to highways and diesel rail are especially problematic.

Premature Cardiopulmonary Mortality in Regional and Local Cohort Studies

Fine particles are associated with 6%, 9% and 14% increases in all-cause, cardiopulmonary and lung cancer mortalities respectively, for every 10 micrograms (millionths of a gram) of fine particulate per cubic meter of air difference between

regions (Pope 2002).

When analyzed at the local community level, the same 10 µg/m³ increment of fine particulate matter is associated with 16%, 28% and 27% increases in all-cause, cardiovascular and lung cancer mortalities respectively (Laden 2006).

Premature Cardiopulmonary Mortality in Near Source Studies (Highway Adjacent)

A recent German study has found women living within 50 meters of a major roadway have 70% greater cardiopulmonary mortality (Gehring 2006).

A Netherlands study (Hoek 2002) previously found 41% and 95% increases in all cause and cardiopulmonary mortality for those living within 100 meters of highways and 50 meters of busy city streets.

A much larger follow-up to the Netherlands study (Hoek 2007) shows more modest results of 3% and 6% increases in all cause and cardiopulmonary mortality, respectively, for every 10,000 vehicles per day (VPD) near residents.

Hoek's study equals ~ 30% and 60% increases in all cause and cardiopulmonary death for living near a 100,000 VPD highway. However, the study lacked some individual information and had fairly few high exposure participants.

Birth Outcomes and Childhood Cancer Studies

Although public health researchers agree that near highway levels of carbon monoxide and PM exceed the concentrations at which negative birth outcomes should be expected (Salam 2005), there are only county (Bell 2007) and local studies (Ritz 2006) to date.

Fortunately childhood cancer deaths are so infrequent that it is hard to find statistically significant studies. However one English study has found a 100% cancer mortality increase for children spending their first year of life near major roadways (Knox 2006).

Childhood Asthma and Lung Function (Local and Near Roadways)

Research from the California Children's Health Study has shown 50% increased prevalence of asthma for children living within 75 meters of a highway (McConnell 2006).

A separate publication from the same large multi-year cohort study shows roughly a 100% increase in asthma for children more exposed to highway pollutants when comparing the 25% and 75% exposure populations, the interquartile range (Gauderman 2005).

A recent Netherlands study (Brauer 2007) shows 20% to 30% increase in asthma per interquartile range for traffic exposure.

The California Children's Health Study has also shown decreased lung function at year 18 for those who grow up near highways (Gauderman 2004 and 2007), with nearly five times as many in the near highway group never reaching 80% of normal lung capacity.

A German study looking at the rapid decrease in regional air pollution in East Germany has found that lung function in children living within 50 meters of busy roads has not been improving at the same rate as their classmates living further away (Sugiri 2006).

Chronic Obstructive Pulmonary Disease and Lung Cancer (Local and Near Highway)

A German study has found that women living within 100 meters of a busy roadway have considerably reduced lung function and a 79% greater incidence of chronic obstructive pulmonary disease (COPD) than those living further away

(Schikowski 2005).

A large cohort study of Los Angeles basin residents has found 44% greater lung cancer mortality in zip codes whose centers lie within 500 meters of a highway intersection (Jerrett 2005).

A careful study of individual residence address and lung cancer in Stockholm found a 60% greater mortality for those in the highest 10% exposure to transportation pollution 20 years earlier (Nyberg 2000). Never smokers, former smokers and light smokers were equally affected.

A comprehensive study of individual residence address and lung cancer in Oslo found 122% higher mortality risks in a two pollutant model for those most exposed to mobile pollutants (Nafstad 2003).

Cardiovascular Disease and Mortality (Local and Near Highway)

A recent study of post-menopausal women in US cities has found cardiovascular and cerebrovascular (stroke) mortality to have much higher association with local than with regional fine particulate levels (Miller 2007).

In the Miller study, the increased mortality between cities per 10 µg/m3 increment was roughly 60% while within cities the same pollution increment was associated with over 100% increase in cardiovascular and cerebrovascular mortality.

A Canadian study has found (Finkelstein 2005) a 40% increase in cardiovascular and cerebrovascular mortality from proximity to traffic but only a 6% increase due to overall local pollution levels. Socioeconomic factors were insignificant compared to residential location traffic volumes.

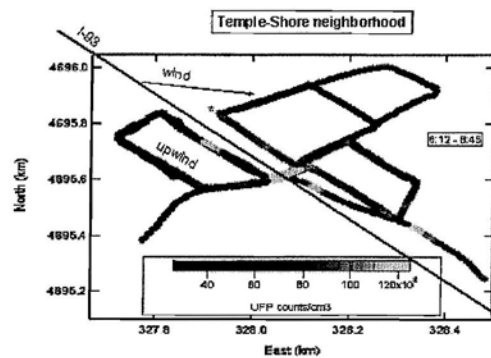
A series of recent German studies (Hoffmann 2006 and 2007) has found an 85% increase in coronary heart disease (after adjusting for other factors) for those within 150 meters of busy roadways, and found a 45% increase in problematic coronary artery calcification for those within 100 meters.

About five years ago scientists in Europe and California, many there funded by the EPA particulate matter research program, started to again make great headway in understanding the uniquely steep gradients of primary pollutants next to very large mobile sources such as highways, diesel rail corridors and significant point sources such as shopping centers, highway intersections, ports and airports. They simultaneously made great progress in documenting the associated public health impacts, as noted above.

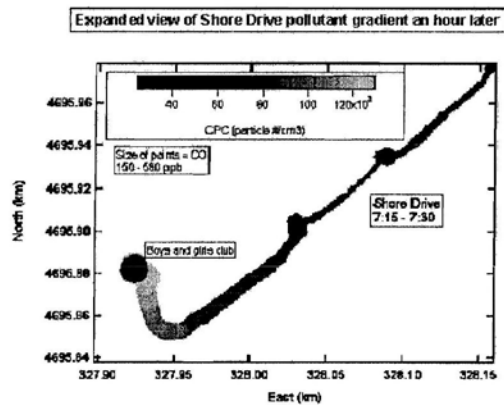
But this time, unlike in the 1970s, the scientists have concentrated on ultrafine particles - those with diameters measured in billionths of a meter - and on the uniquely toxic compositions and penetration abilities of those UFPs. In 2002 Yifang Zhu, then at UCLA, published the first of a series of studies showing that particle number count along highways, driven entirely by UFP concentrations, is many times higher than several hundred meters downwind of those highways. Many studies have confirmed this.

Similar findings have been made by Janhall and others in Sweden, by Morawska and others in Australia, by Finns, Germans and in many other geographies. Just last week a near highway measurement series I am associated with in Somerville found a morning concentration level of roughly 120,000 UFP per cubic centimeter (cc) of neighborhood air in Somerville, downwind of Interstate 93, but only one third that level 200 meters further away. By 10:30 am, post rush hour and sunny, the background UFP had dropped to 14,000 UFP per cc. As ambient daytime air is less photochemically active in winter, the primary UFP number gradients may be steeper in the summer even though UFP nucleation rates tend to be lower.

*I have pasted below a sneak peak at this data though it has not yet been quality assured.
We will shortly have quality assured data as well as values for the near highway PPAHs.*



At "starred" area on Shore Drive, UFP is ~3x the background (upwind) value and decays to background ~200 m from I-93. Upwind area is relatively clean.



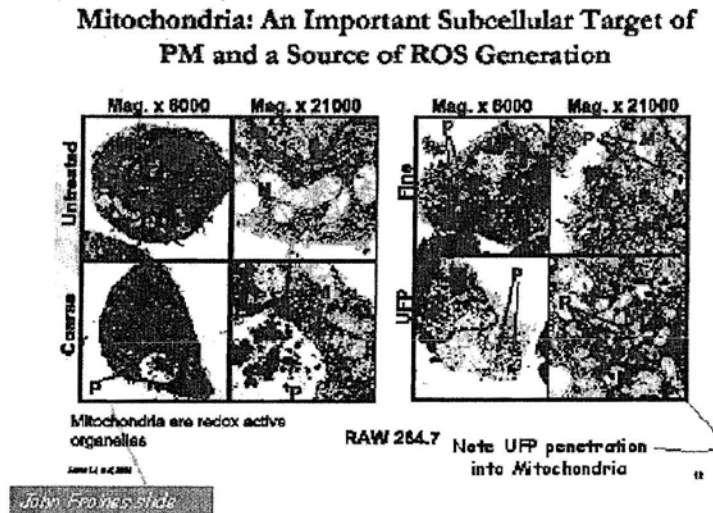
Within two years of Yifang Zhu's first UFP gradient paper the California legislature made it virtually illegal to build a new public school within 500 feet of a highway. Shortly thereafter the California Air Resources Board sent a Land Use Handbook to every planning board in the state suggesting caution before permitting sensitive land uses such as housing, hospitals and active playgrounds within 500 feet of a large mobile source of primary air pollution. Massachusetts has not yet caught up with the science.

Coincident with Yifang Zhu's work another young California scientist, Max Zhang, then at UC-Davis, wrote

three papers explaining the science which leads to such elevated levels of UFP next to highways and other large sources. In a nutshell, the vast majority of the UFP are created in the first several seconds after leaving a tailpipe, as hot exhaust gases cool 300 degrees Kelvin and are diluted about 1000 to 1. The adjustment to ambient conditions drives a furious particle nucleation and condensation process.

Max Zhang's aerosol modeling work also showed why the UFP concentration gradients found by Zhu and others returned to background levels so close to the primary mobile sources. Within two minutes of exhaust, the UFP has grown, or been absorbed, and blended in with the larger fine particles of the local area. While the fine particulate mass is largely conserved, the particle number count is vastly reduced as the average particle size grows. The larger particles are much less able to penetrate biological systems.

I have pasted below a slide from a 2006 presentation by John Froines, who heads the university based LA EPA PM Research Center. An updated slideshow can be downloaded from "theimpactproject". The slide shows the unique ability of UFP to penetrate mitochondria, where damage is done by UFP and PPAHs. There are no coarse particles and few fine particles able to penetrate into these mitochondria.



Given their location in southern California near the Ports of Los Angeles and Long Beach, John Froines and many of his colleagues focus a lot of their research efforts on diesel particulate matter. Notwithstanding that interest in diesel, several of the Californians, including Max Zhang, have shown that gasoline vehicles contribute much more particulate matter to our mobile inventories than EPA's current MOBILE model assumes. Gasoline vehicles contribute especially to organics and PAHs that join particles. The heavier the PPAH and the colder the ambient temperature, the more toxic the PPAHs become. Below 5 (carbon based) rings, PAH concentrations tend to be dominated by diesel emissions and to be gases. The 5

to 6 ring PAHs such as long known carcinogen benzo(a)pyrene can be contributed by both diesel and gasoline vehicles. The more toxic PPAHs over 5 rings in size and heavier than 252 - i.e., the mass spectrometer m/z reading of benzo(a)pyrene - are predominately contributed by gasoline vehicles. At 300 plus, about the level of coronene, mobile PPAHs are almost unanimously from gasoline vehicles

I have pasted below a figure and a table from a recent paper by Ntziachristos documenting the gasoline contribution of heavy PPAHs to mobile UFP and the greater biological activity of the heaviest PPAHs.

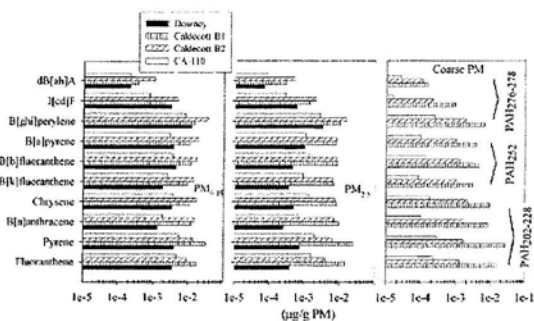


Figure 2
PAH content in size-fractionated PM samples, per sampling location. The PAHs have been grouped according to their molecular weight as schematically shown on the rightmost panel for all four sampling locations. Note the logarithmic scale on the x-axis. The highest PAH concentrations were found for samples collected in the tunnel. Interestingly, the concentration of heavier PAHs is higher in the gasoline-only tunnel bore while the PAH profile is shifted to relatively lighter components in the mixed gasoline-diesel bore.

Table 2: Pearson correlation coefficients (R) and level of significance (p) for DTT activity with different PM species

Species	R	p
EC	0.26	0.30
OC	0.12	0.64
OC (excluding two unrealistic values)	0.87*	< 0.01
NO ₃	-0.45	0.06
SO ₄	-0.08	0.75
Metals and elements	-0.19	0.45
PAH 202–228 (FLU, PYR, BaA, CHR)	0.57*	0.04
PAH 252 (BkF, BbF, BaP)	0.92*	< 0.01
PAH 276–278 (BghiP, IcdP, dBahA)	0.95*	< 0.01

* indicates significance at the p = 0.05 level

This paper (attached) shows that in the Caldecott tunnels of California, UFP from the tunnel bore which allows no heavy duty diesel has the highest level of heavy PPAHs (Fig2). Those PPAHs display the most destructive power in bioassays (Tab2). An earlier Caldecott paper by Ntziachristos' USC colleague Geller (also attached) showed that newer "clean technology" vehicles do indeed emit less fine particle mass -

which is good for compliance with EPA PM2.5 regulations - but also emit far higher numbers of UFPs.

This aerosol finding - "new vehicle technology" which has led to lower fine particle mass but higher nearby UFP number counts - has been replicated in Brisbane Australia and in Erfurt Germany. Regionally focused air pollution policies are leaving those who live next to major mobile pollution sources in positions of greater and greater risk relative to the rest of the population. This is a consequence of a vastly oversimplified regulatory context which has forgotten the importance of primary air pollution and of finer-grained geographic scales of influence. (For example, most large Massachusetts 40B housing projects are now built very close to highways. This will have dire consequences within a decade or two.)

The concentrations of these most toxic primary PPAHs are much higher in winter than in summer, about an order of magnitude in temperate climates. Thus many mobile primary pollutants of greatest concern, from gasoline vehicles, present unique problems due to cold "cold starts" and/or due to low outside ambient winter temperatures. I have attached several peer-reviewed papers, one by Rich Cook of EPA's mobile lab in Ann Arbor, which document the high levels of VOCs and PPAHs in winter conditions.

This is a problem the MEPA scope and SWSA should address head on. It is critically important.

I-009-005

In truth, the future health of the East Boston neighborhoods which lie to the south and west of the proposed garage would be far better off without this huge proposed concentration of vehicles. It would certainly be worth reconsidering in the Draft EIR an alternative location further removed from residences. Additionally any measures that would reduce idling would help with the total near source emissions levels, especially of VOCs and probably of PPAHs as well.

I-009-006

I-009-007

Two things are critical. First, a requirement that wintertime and near source UFP levels (down to 5 nanometers diameter or lower) and PPAH levels (including all 5 and 6 ring PAHs as well as those isomers up to and heavier than coronene) be measured by competent instruments at locations that can presage the levels that might be expected near Logan's SWSA Redevelopment. If I can do this from within a little all volunteer group in Somerville, MassPort should be expected to do far better (and certainly no less).

I-009-008

Second, it would be best to use a lion's share of the "sustainable" design, engineering and construction resources allocated to this project on building and systems design which both could keep the vehicles within the property as close to 70 degrees F as possible and could direct cold start emissions away from the neighborhoods, including through mechanical ventilation systems. Wind directions which aim emissions away from the west and south may be taken into account, as can passive solar design elements.

I cannot overemphasize how crucial it is for the future health of East Boston to tackle these issues.

Most Respectfully Submitted,

Wig Zamore



Wig Zamore
108 Comment

I-009-005

The potential air quality impacts in the immediate neighborhood of the SWSA have been assessed and reported in Chapter 4, *Air Quality and Noise*. In all cases, the resultant concentrations were well within the State and National Ambient Air Quality Standards (AAQS) - levels established by the U.S. EPA to protect public health, welfare and the environment. In most cases, under the future Build Conditions, the resultant concentrations were lower than or at the same levels as the future No-Build/No-Action Conditions.

Chapter 1, *Proposed SWSA Redevelopment Program* presents the alternative sites evaluated for the proposed program. Consistent with the Purpose and Need, the SWSA was identified as the preferred site for a consolidated rental car facility because it is the only on-airport parcel, compared to the other sites evaluated, that:

- Is large enough to efficiently and adequately accommodate the long-term transportation, parking and access demand for rental car operations based on current and future air passenger growth at Logan Airport, which requires at minimum of over 45 acres to accommodate the anticipated rental car demands in a limited height Garage Structure. (The NSA is only approximately 9.5 acres total and the Robie Parcel is only approximately 7.6 acres total – both of which are programmed for other airport-related operations/uses.)
- Would make efficient use of available on-airport land;
- Would make efficient use of access to main airport circulation roadways, terminals and the regional highway network providing excellent ground access;
- Would utilize existing airport ground transportation infrastructure;
- Would follow sustainable/LEED criteria through the ability to facilitate pedestrian, bicycle and transit accessibility by locating the facility within walking distance to public transportation; and
- Would provide environmental benefits (e.g., improved air quality through reduced vehicle-miles-traveled).

I-009-006

As described in Chapter 4, *Air Quality and Noise*, Massport is committed to post idling restriction signs in all loading and drop-off areas within the site in accordance with Massachusetts General Law (MGL), Chapter 90, Section 16A, 310 Code of Massachusetts Regulation (CMR), Section 7.11 and MGL, Chapter 111, Sections 142A – 142M (The Massachusetts Anti-Idling Law).

I-009-007

See response to comment I-009-003.

I-009-008

As described in Chapter 4, *Air Quality and Noise*, the micro-scale dispersion analysis did not reveal any violations of the ambient air quality standards for carbon monoxide (CO) or particulate matter larger than 10 or 2.5 microns (PM10/2.5) in diameter. This modeling was conducted using "real world" wind data from the airport site.

As discussed in Chapter 4, the design criteria of the proposed SWSA is an "open" garage (as defined by the MA State Building Code) and is based upon natural ventilation. The Garage Structure would include architectural features that will visually minimize the scale and will partially enclose sections of the parking garage that face the nearby neighborhoods.



I-010-001

Comment noted.

September 23, 2008

Secretary Ian A. Bowles
Executive Office of Energy and Environmental Affairs
Attn: Anne Canaday, MEPA Office
EEA No. 14137
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

Re: **Draft Environmental Impact Report**
Southwest Service Area Redevelopment Program at Boston-Logan International Airport
East Boston, Massachusetts

Dear Secretary Bowles:

On behalf of the rental car companies at Boston-Logan International Airport (Logan Airport), we submit the following comments on the June 2008 Draft Environmental Impact Report (DEIR) for the Southwest Service Area Redevelopment Program (SWSA) at Boston-Logan International Airport in East Boston, Massachusetts.

Currently, eight rental car companies serve Logan Airport. Six companies (Hertz, Avis, Budget, Alamo, Dollar, and National) are located on-airport in the SWSA and two rental car agencies (Enterprise and Thrifty) operate on Route 1A north of the Airport, with Enterprise expected to move on-airport this year and Thrifty to relocate to the airport with the proposed consolidated car rental facility (the "ConRAC").

The current rental car operational configuration at Logan Airport is relatively inefficient. Each of the rental car companies operates a separate shuttle bus service that transports customers between customer service facilities and the terminals. All vehicle ready/return activities occur on sites with limited capacity for storage where routine maintenance facilities such as washing, vacuuming, and fueling must share space with all the other functions required to support a rental car business. In order to meet the growing demand for ready vehicles, companies must often shuttle vehicles to Logan Airport from off-airport locations because there is insufficient storage capacity on-airport.

I-010-001 Over the past few years, representatives of the rental car companies have coordinated closely with the Massachusetts Port Authority (Massport) to replace and upgrade existing car rental and ground transportation facilities in the SWSA. The currently proposed SWSA Redevelopment Program continues the Logan Airport rental car companies' and Massport's ongoing commitment to create customer and operationally efficient facilities at Logan Airport and to manage demand in an environmentally responsible manner while reducing impacts to the community. A consolidated rental car facility at Logan Airport is not only consistent with rental car company environmental and ground access goals,

I-010-001 | but is vital to supporting long-range ground transportation and customer service needs.

As analyzed more fully in the DEIR, the planned facility and its associated program elements would offer significant operational and environmental benefits including:

- Reducing the need for the rental car operators to shuttle vehicles from off-airport storage locations. This would mean less VMTs and emissions of rental car operations within the East Boston community, Route 1A, and adjacent neighborhoods.
- Managing demand for rental cars and air passenger parking.
- Facilitating efficient management of car rental operations as well as commercial parking in a user-friendly structure and locating commercial spaces in reasonable proximity to the terminal facilities.
- Providing a common busing operation that will require fewer buses; this will reduce curb congestion and provide a consistent quality of service to all rental car customers.
- Further reduce vehicle miles traveled (VMTs) and greenhouse gas emissions will occur due to the relocation of commercial parking close to the terminals, reducing the need for shuttle buses to travel to remote parking at a greater distance.
- A multiple route common bus system, which will bring passengers directly to and from the ConRAC from the terminal.
- Simplifying rental car returns so that returning renters would be directed to the ConRAC from the same regional roadway network they use to leave the airport (avoiding the airport terminal area).
- Embracing sustainable design, construction, and operations guidelines. This would lessen environmental impacts both locally and regionally during the construction phases and during long-term operation. The program will be designed, constructed and operated to be eligible for Leadership in Energy and Environmental Design (LEED®) certification. Massport will strive to achieve a LEED Silver rating and the goals of the State of Massachusetts LEED Plus program (established by the Commonwealth's Executive Office for Administration and Finance).
- Reducing motor vehicle emissions from the consolidated shuttle bus system, powered by a fleet of low-emission, clean-fuel vehicles. The consolidated shuttle bus system would reduce congestion, terminal curb demand, and dwell times at terminal curbs.
- Reducing the number of the current rental car shuttle bus fleet by 50 percent (approximately 100 vehicles (peak) to approximately 40 to 50 vehicles (peak)). This would result in a reduction in energy use, VMT, and emissions.
- Facilitating the design and construction of a landscaped buffer abutting the new facility, including the SWSA Edge Buffer, Phase 2.
- Providing pedestrian and bicycle accommodations for employees, air passengers and community residents.
- Reducing noise from existing rental car operations and buffering the community from noise from the airport roadway system.
- Improving the level of service at several SWSA intersections and intersections located elsewhere on-airport.
- Enhancing SWSA employee access to mass transit at the MBTA Blue Line Airport Station and the Silver Line stop at Terminal A.

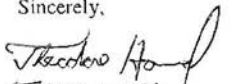
It is important for reviewers to understand that without a well-designed ConRAC facility in the SWSA,

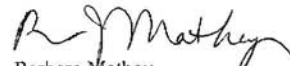
our businesses at Logan Airport will be difficult to manage efficiently. We believe the ConRAC offers the best opportunity to grow our businesses in a sustainable manner while reducing current and future impacts on our neighbors and the surrounding community. Many sustainable initiatives are currently in practice nationally and in the Boston area may also be implemented at Logan Airport, including:

- Recycle motor oil and other maintenance fluids;
- Utilize biodegradable and/or earth-friendly cleaning fluids and chemicals for vehicle and site maintenance;
- Maintain some percentage of high-efficiency vehicles of the total fleet of vehicles;
- Offer hybrid vehicles or flexible fuel vehicles where alternative fuels such as bio-diesel and E-85 fuels are available;
- Offer hourly rentals or car sharing rentals for short-term use;
- Utilize car wash systems that capture, treat, and recycle as much water as possible to reduce wastewater and contamination of local water sources;
- Donate funds to build parks or to plant trees to offset the impacts of carbon emissions from the rental vehicles; and
- Offer the customers the opportunity to buy carbon offsets as part of their rental agreement.

We look forward to continuing to work with Massport, state and local agencies and the public as the design and environmental review process moves forward.

Sincerely,


THEODORE HOMMEL
~~Robert Bonta~~
Avis Budget Group


Barbara Mathey
Vanguard Car Rental USA
Enterprise Rent-A-Car


Scott Pflueger
The Hertz Corporation

cc: Craig Leiner, Massport
Tom Ennis, Massport
Jeff Weiner, PGAL/PB Collaborative


John DaMore
Dollar Rent-A-Car

Joe Olivera
Dollar Thrifty Automotive Group



Massachusetts Port Authority
One Harborside Drive, Suite 200S
East Boston, MA 02128-2809
Telephone (617) 428-2800
www.massport.com

September 24, 2008

Secretary Ian A. Bowles
Executive Office of Energy and Environmental Affairs
Attn: Anne Canaday, MEPA Office
EEA No. 14137
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

RECEIVED

SEP 26 2008

MEPA

Re: Draft Environmental Impact Report – Air Quality
Southwest Service Area Redevelopment Program at Boston-Logan International Airport
East Boston, Massachusetts

Dear Secretary Bowles:

I-011-001

On behalf of the Massachusetts Port Authority (Massport) I would like to take this opportunity to address two issues related to the environmental permitting process for the proposed Logan Airport Southwest Service Area (SWSA) Redevelopment Program.

At recent meetings with the East Boston community to discuss the project, Massport received some preliminary comments relating to the project air quality analysis. These comments suggested that the Draft Environmental Impact Report (DEIR) air quality assessment did not adequately assess the impact of air emissions on adjacent properties and that the DEIR did not fully respond to comments on the ENF. In consultation with the DEIR air quality specialist, KB Environmental Sciences, we offer the following responses to these comments.

In accordance with the MEPA Certificate, the air quality impact assessment for the SWSA Redevelopment Program comprised detailed technical analyses, including:

- a meso-scale study
- atmospheric dispersion modeling
- CO hot-spot modeling
- a greenhouse gas inventory and
- a wind analysis.

This allowed us to evaluate the project's potential effects on local air quality conditions – including those out to a distance of 0.3 kilometers (300 meters) of the site. Typically the greatest potential air quality impacts associated with projects of this nature occur within this distance. The analyses considered the existing conditions in addition to the future no-build and build conditions. As the DEIR demonstrates, the future build air quality conditions are, for the most part, predicted to be equal to or better than the existing and future no-build scenario and in no case predicted to exceed applicable ambient air quality standards (AAQS) or emission thresholds. The potential air quality benefits are derived from a significant reduction in future shuttle bus trips with clean fuel vehicles, a reduction in on- and off-site rental car fleet shuttling a LEED-certified facility, and improved on-airport traffic flows.

The specific comments at the East Boston meeting were focused on emissions of ultrafine particles (UFP) and particle-bound polycyclic aromatic hydrocarbons (PPAHs) in nearby areas. Ultrafine particles (also known as PM_{0.1}) and PPAH are the subject of ongoing research by U.S. EPA and others in terms of their formation in motor

Operating | Boston Logan International Airport • Port of Boston general cargo and passenger terminals • Tobin Memorial Bridge • Hanscom Field •
Boston Fish Pier • Commonwealth Pier (site of the World Trade Center Boston) • Worcester Regional Airport
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I-011-001

No response is required. This letter is a response letter from the Proponent (Massport).

RE: Southwest Service Area Redevelopment Program at Boston-Logan International Airport
East Boston, Massachusetts
September 22, 2008
Page 2

vehicle exhaust; their atmospheric transport, both locally and regionally; appropriate monitoring and modeling methods; and their potential health effects. However, as you are aware, there are presently no federal or state AAQS for these two pollutants to determine acceptable levels in Boston, around the airport, or in the vicinity of the SWSA Redevelopment Program area. Therefore, ultrafine particles were not specifically analyzed in the air quality assessment.

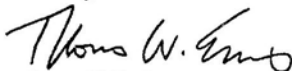
However, absent state or federal standards, fine particulate matter (also known as $PM_{2.5}$) can be used as a "surrogate" for $PM_{0.1}$ /PPAH and this pollutant was analyzed in the DEIR. The atmospheric dispersion modeling results for $PM_{2.5}$ reveal that (a.) the maximum future-year levels are expected to remain below (i.e., within) the AAQS for this pollutant with the proposed program and (b.) are not expected to differ substantially from existing levels (see Table 5-2 of the DEIR.)

Additional comments included detailed data on the potential effects of air emissions on human health and the environment. As you are aware, Massport is committed to reducing emissions in and around the airport and has already implemented a wide range of emissions reduction programs. The proposed SWSA Redevelopment Program is another beneficial step toward achieving this goal. Consolidating the shuttle buses into a combined fleet of clean fuel vehicles thereby reducing vehicles miles traveled (VMT's) and associated bus emissions and incorporating multiple sustainable design goals into the proposed building and operations program are all elements that will reduce emissions and help to improve air quality compared to existing and future no-build conditions.

Massport believes that the air quality impact assessment for the SWSA Redevelopment Program has analyzed the items in question and addressed all areas of concern regarding air quality associated with the future program. Further emissions-related data is contained in Chapter 5 and in Appendix E of the DEIR. As the building design advances, Massport will continue to evaluate options and incorporate elements that will further help improve air quality, noise attenuation, and energy efficiency. We hope this supplemental response will be useful as you review the pending DEIR comments.

We appreciate your review of this additional information and we look forward to continuing to work with MEPA as well as other state and local agencies and the public as the design and environmental review process moves forward.

Sincerely,



Thomas W. Ennis
Senior Project Manager/Senior Planner
Massachusetts Port Authority
Economic Planning & Development

cc: Craig Leiner, Massport
Stewart Dalzell, Massport
Jeff Weiner, PGAL/PB Collaborative
Michael Kenney, KB Environmental Sciences

Responses to Comments Received on the 2009 NPC

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December 23, 2009

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
NOTICE OF PROJECT CHANGE

PROJECT NAME : Southwest Service Area Redevelopment Program at
Boston-Logan International Airport
PROJECT MUNICIPALITY : Boston
PROJECT WATERSHED : Boston Harbor
EEA NUMBER : 14137
PROJECT PROPONENT : Massachusetts Port Authority
DATE NOTICED IN MONITOR : October 26, 2009

As Secretary of Energy and Environmental Affairs, pursuant to the Massachusetts Environmental Policy Act (G.L. c. 30, ss. 61-62I) and Section 11.10 of the MEPA regulations (301 CMR 11.00), I have reviewed the Notice of Project Change (NPC) submitted on this project and hereby determine that it **continues to require** the preparation of an Environmental Impact Report (EIR). I am amending the existing scope for the Final EIR to address the substantive issues presented in the Notice of Project Change.

Project History

As described in prior MEPA filings including the Draft EIR (DEIR), the proponent, the Massachusetts Port Authority (Massport), has proposed a two-phase project to redevelop the Southwest Service Area (SWSA) at Logan International Airport. The SWSA is presently occupied by the taxi pool, a bus/limousine pool, a flight kitchen and six rental car businesses. At the time of the DEIR Massport indicated that a seventh car rental agency would soon relocate to the airport with an eighth moving to the SWSA once the project is operational.

The originally proposed project included 2.7 million gross feet (gsf) structure that would

be constructed as a five-level, 50-foot +/- high garage to house car rental facilities and up to 3,000 commercial parking spaces. The project was designed to include 270,000 square feet (sf) of space for a car rental customer service center (CSC) and maintenance and storage areas for rental car operations (referred to as quick turnaround areas (QTAs)) which provide fueling, car washing and cleaning facilities, and vehicle storage. The project also included a shared shuttle bus system, rather than the existing eight individual shuttles, a reconfigured taxi pool, roadway and intersection improvements, site access improvements, landscaped buffers, and new pedestrian and bicycle facilities. To accommodate the project, the taxi pool and limousine pool were proposed to be relocated from the current location (and the taxi pool would be increased) to the north of Porter Street within the SWSA. The flight kitchen and bus pool would be moved to another area on the airport. Bicycle access and parking would be provided.

Notice of Project Change

The current NPC presents several changes to the project as previously described, including primarily the removal of the commercial parking component from the garage structure. The project as described in the 2009 NPC continues to include the consolidation of the existing rental car facilities and operations into a single facility (Levels 1 through 4 (roof-top) of the Garage Structure and CSC, as well as the QTAs) and eliminates the consolidated commercial parking previously proposed at Levels 4 and 5 of the Garage Structure. Although temporarily relocated, the Bus and Limousine Pool would be retained within the SWSA east of Jeffries Street (but would be moved to the North Service Area temporarily during construction).

The removal of the commercial parking component from the garage structure serves to: reduce the size of overall garage structure by approximately half; reduce the height of the garage structure by one level, or 18 feet; reduce the total number of structured parking spaces by 59 percent; provide additional set-back of the garage structure from the airport property edge and the neighboring residential community; retain the Bus and Limousine Pools within the SWSA; retain the long term commercial overflow parking within the SWSA; eliminate the second phase of construction (now a single-phase project); and combine the individual rental car shuttle buses and Massport Airport Station buses (routes 22/33/55) through a Unified Bus System thereby reducing the rental car shuttle bus fleet size by 70 percent compared to the Future No-Build/No-Action Conditions (from 94 vehicles to 28 vehicles). These changes are expected to result in reduced project impacts, including: further reduction in vehicle-miles-traveled (VMT) and associated air emissions as compared to the DEIR; an increase in additional pervious/landscaped areas site-wide; and allowing even greater operational efficiency of the facility through the reduction in floor area and volume of the garage structure.

MEPA Jurisdiction and Permitting Requirements

The project is undergoing review and subject to the preparation of a mandatory EIR pursuant to sections 11.03(6)(a)(6) and 11.03(6)(a)(7) of the MEPA regulations because the

project involves the generation of 3,000 or more new additional trips on roadways providing access to a single location and the construction of more than 1,000 new parking spaces at a single location. Because the proponent is an Authority of the Commonwealth, MEPA jurisdiction is broad and extends to all aspects of the project that are likely, directly or indirectly, to cause Damage to the Environment as defined in the MEPA regulations.

The project will require an Order of Conditions from the Boston Conservation Commission for work within the buffer zone to wetlands resources (and if the local Order were appealed, the project would require a Superseding Order from the Department of Environmental Protection (MassDEP)). Because the wastewater flow from the project is estimated to be less than 50,000 gpd, the project requires a certification statement for wastewater flows from MassDEP rather than a permit. The Massachusetts Water Resources Authority (MWRA) has indicated during the review of the DEIR that a MWRA Sewer Use Discharge Permit will be required for wastewater discharges to the sanitary sewer system. The project must also comply with a USEPA-NPDES General Permit for construction activities at Logan International Airport and with Logan International Airport's USEPA-NPDES General Permit for Stormwater Discharges from its construction activities. The project is also subject to the MEPA Greenhouse Gas Emissions Policy and Protocol.

Coordinated MEPA/FAA/NEPA Review

In addition to the EIR requirement, the project is undergoing review pursuant to the Federal Aviation Administration (FAA) and the National Environmental Policy Act (NEPA) in an Environmental Assessment (EA). Both NEPA and MEPA regulations allow (and encourage) the preparation of joint EIR/EA documents. As noted at the outset of this review process, I believe coordinated review is a good government practice, both in terms of allowing for maximum public and agency understanding of the project and to ensure that review by regulatory agencies is as efficient as possible. I hereby authorize and encourage the preparation of a joint Final EIR/Final EA for the proposed project.

MEPA Background

In its annual (EEA #3247) Environmental Status and Planning Reports (ESPRs) and Environmental Data Reports (EDRs) for the airport dating back to 1993, Massport has contemplated making the SWSA more efficient through the development of enhanced transportation facilities, including a consolidated rental car facility (the "ConRAC") and commercial parking.

This project (EEA #14137) originally underwent MEPA review in January, 2008. The proponent filed an Environmental Notification Form (ENF) to allow MEPA review of the entire project and committed to both harmonizing the timetables and filing one set of documents that fulfill the state and federal environmental reviews. These commitments ensure that the impacts

of the project will receive full disclosure in the state and federal review processes.

In July, 2008 the proponent submitted a combined state and federal Draft EIR/EA. After careful review of the Draft EIR and extensive comments from agencies, interested parties, and the public that cumulatively addressed every facet of the project, I issued a Certificate on the Draft EIR on October 10, 2008 to guide development of the Final EIR. The Draft EIR Certificate was comprehensive in subject matter and required the proponent to develop a substantial amount of additional information to characterize and assess potential impacts to the environment of the full project. The amended scope provided below continues these requirements and has been updated to reflect changes to the project described in the NPC.

Data presented in the NPC shows that the revised project should prove to have significantly reduced environmental impacts from what was presented in the DEIR. There are also environmental benefits that are likely to be achieved by the consolidation of rental car and shuttle bus operations. However, at the same time, I have received comments which have expressed concerns with the proposed project's impacts upon the existing transportation infrastructure, air quality, and impacts of massing upon adjacent neighborhoods. To facilitate development of a project that adequately avoids, minimizes and mitigates impacts to environmental resources, I expect the proponent will continue to work closely with the state and city agencies and authorities, as well as neighbors and neighborhood organizations that have provided detailed comments on the NPC (as well as those that commented on the DEIR).

The current NPC does not introduce new project elements, but instead proposes to reduce the development program to focus on the consolidation of the existing rental car facilities while removing the commercial parking element from the garage structure. I therefore find that the scope from the DEIR Certificate, amended as required below, remains appropriate guidance for the project. This amended scope supersedes and replaces the scope for the FEIR provided in the Certificate on the DEIR:

AMENDED SCOPE

I anticipate that the FEIR will respond to the scope outlined below with sufficient detail to enable the state agencies to issue permitting decisions and Section 61 Findings. I retain my authority to require further review of any issues outlined in this Amended Scope and in the comments received in the form of a Supplemental Final Environmental Impact Report if those issues are not thoroughly addressed in the FEIR. The FEIR should follow Section 11.07 of the MEPA regulations for outline and content, as modified by this Certificate.

Project Description & Regulatory Environment

C-002-001 | The FEIR should include a detailed description of the project with a summary/history of
C-002-002 | the project. It should provide an existing and a proposed site plan. The Final EIR should include

C-002-001

The *Summary* chapter provides the history and background of the Program. Figures S.3 and S.4 illustrate the existing and proposed site conditions, respectively.

C-002-002

The *Summary* chapter provides a history of the MEPA review and the key changes made to the Program. Chapter 1, *Proposed SWSA Redevelopment Program*, provides a detailed description of the currently proposed program.

- C-002-002** | a full discussion of the proposed changes to the project over time, and an updated description of the project in light of the proposed changes. The FEIR should include the description of each state agency action required for the project that is contained in the DEIR and include any updates.
- C-002-003** | It should show that the project is consistent with any applicable performance standards. The FEIR should contain sufficient information to allow reviewers to understand the environmental consequences related to the project.
- C-002-004** |

Response to Comments

- C-002-005** | In order to ensure that the issues raised by commenters are addressed, the FEIR should include a response to comments received on the NPC, as well as a response to the comments received during the 2008 review of the DEIR.

I recommend an indexed response to comments approach, although I will defer the final choice of format to the proponent. This directive is not intended to, and shall not be construed to, enlarge the scope of the EIR beyond what has been expressly identified in the initial scoping certificate or this certificate.

Alternatives

The Preferred Alternative presented in the NPC should be the basis for the analysis of impacts and comparisons of alternatives. As noted above, a key programmatic change to the SWSA Redevelopment Program is the removal of the commercial parking component from the Garage Structure (the approximately 3,000 existing on-airport spaces previously proposed for consolidation to Levels 4 and 5). The currently proposed Garage Structure consists of two main components: 2,500 rental car "ready/return" parking spaces for customer pick-up (Levels 1-3); and 620 rental car storage with no public access (rooftop Level 4). Entry to and primary exit from the garage structure would be along the south side. Separate and dedicated rental car employee access and rental car customer vertical circulation ramps are stacked along the west side of the Garage Structure.

The removal of the commercial parking spaces within the garage structure combined with a re-organization of and improvement to the garage design (which resulted in a reduction in rental car spaces) allows for: an increase in set back from the airport edge and neighboring Gove Street residential community (an additional 60 feet from the western edge and an additional 18 feet from the southern edge for a total ranging from 470 to 620 feet away from the airport edge/community); and a shift (to the east) so that majority of the structure is shielded by the existing 18-foot noise barrier reducing visual impacts to homes on Maverick Street. This is expected to result in further reductions in noise, visual and light impacts. The bulk of the Garage Structure is now hidden from Maverick Street, behind Massport's existing sound wall. The southwest corner of the Garage Structure will continue to be screened from the community. The west and north facades will be similarly treated, with screening of the façades visible to the

C-002-003

The *Summary* chapter provides a list of the anticipated federal, state and local approvals and/or permits (Table S-2). The impact analyses of this Final EIR/EA demonstrate that the Program is consistent with applicable performance standards.

C-002-004

Chapters 2 through 8 present the potential environmental effects of the Program. Chapter 7, *Beneficial Measures/Section 61 Findings*, describes the proposed mitigation measures and/or beneficial measures of the Program.

C-002-005

Chapter 9, *Responses to Comments* provides direct responses to all comments received on the 2008 Draft EIR/EA and 2009 NPC.

community.

The Customer Service Center (CSC), which continues to be adjacent to the garage structure, has been reshaped and reduced in size slightly (by 1,000 gross square feet) to better accommodate the revised Garage Structure program. Rental car customers will enter and exit on the east side of the building facing the airport, closest to the terminal area and access roadway by way of the Unified Bus System (described below). Customer access to the Garage Structure (Levels 1-3) from the CSC will occur via enclosed pedestrian passages along the west side of the CSC. The CSC will also include a Ground Transportation Unit operating center to support management of the Unified Bus System.

The four rental car service and storage areas commonly referred to as "Quick Turnaround Areas" (QTA) have been relocated west of Jeffries (Figure 1.6). The previously proposed improvements to the QTA buildings (e.g., enclosure of noise-generating equipment) and solid fences/walls designed to reduce noise from activities at the QTA facilities (including car washing and vehicle movements) continue to be proposed, providing a noise and visual buffer as well as a buffer from the intrusion from headlights into the adjacent community.

As described in the 2009 NPC, the Bus and Limousine Pools will be temporarily relocated to the North Service Area (NSA) during construction and returned back to the SWSA (just west of its existing location east of Jeffries) upon completion of the ConRAC (Figure 1.6). The Bus and Limousine Pools would include a total of approximately 370 parking spaces and a 2,500 square foot administration building. Buses and limousine vehicles will access the SWSA off of Harborside Drive through a shared access with the retained long-term commercial overflow parking lot off of Tomahawk Drive. Impacts associated with this use would be comparable to the Existing and No-Build/No-Action Conditions for traffic and noise since they currently exist within the SWSA.

The existing long term commercial overflow parking lot located in the southwest corner of the SWSA (the former post office site) will be retained and relocated within the SWSA as surface parking (with a similar number of spaces) east of the proposed Bus and Limousine Pool (east of Jeffries) and will be further away from residences than where the spaces are currently situated.

The Common Shuttle Bus concept presented in the 2008 DEIR was also re-evaluated to identify opportunities to combine the consolidated rental car shuttle service with other existing Massport airport bus services. As currently envisioned, a new combined bus fleet that would serve both ConRAC facility customers (replacing the eight on- and off-airport rental car companies' individual diesel shuttle bus services) and MBTA Airport Station riders (Massport airport bus routes 22133155) is proposed as part of the 2009 NPC Program. All other Massport airport buses (long-term economy parking; employee lot; water taxi; Logan Office Center) will continue as currently operated.

C-002-006

The proponent has filed this project with MEPA early in the design process and has committed to continue public meetings to address issues such as parking and traffic circulation, building architecture, and buffer and streetscape design. I expect the FEIR therefore may present refinements to the Preferred Alternative presented in the NPC to reflect this continued coordination. In addition to presenting any updates to the preferred alternative, the FEIR should also address the additional issues outlined below.

C-002-007

The DEIR discussed additional alternative site locations, which were referenced in the NPC, that included relocating all rental car operations to other on-airport locations. The FEIR should discuss whether the finding on relocating all rental car operations to other on-airport locations is still true. The DEIR stated that:

- The Robie Parcel which was not adequate in size or location to accommodate the current and future rental car needs and would likely add vehicle miles traveled (VMTs) if used in connection with rental car operations.
- North Service Area which was not adequate in size or location to accommodate the current and future rental car needs and was not accessible to roadway and highway system.
- North Cargo Area which was not adequate in size or location to accommodate the current and future rental car and currently accommodates air cargo and essential airline support services such as hangars.
- Bird Island Flats/South Cargo Area which was not adequate in size or location and could interfere with primary cargo area with secured airside access

The FEIR should presented a detailed discussion of whether any of these alternative locations are now feasible in light of the reduced size of the project or other changed circumstances and whether relocation to a parcel nearer to the MBTA Airport Station would be feasible as a means to facilitate greater use of public transportation.

C-002-008

I have also received many comments on buffers to the neighborhood. The FEIR must address what type of buffer will be provided between the project and adjacent neighborhoods, including what public access and amenities will be provided. It should provide updated information on transportation and buffer streetscape design to the surrounding neighborhood in relation to the Preferred Alternative. In addition, several commenters have questioned whether the project could be built partially below grade to reduce the height of the building. The FEIR should discuss whether this is a feasible mitigation measure for the project.

C-002-009

Traffic I Vehicular Transportation

The DEIR previously presented a Traffic Impact Assessment in conformance with the EOE/EOC Guidelines for EIR/EIS Traffic Impact Assessment. It analyzed traffic impacts by determining the Level-of-Service (LOS) at the intersections required in the ENF Certificate

C-002-006

Chapter 1, *Proposed SWSA Redevelopment Program*, presents the preferred alternative and discusses refinements made during the public review process (specifically, the 2009 NPC) in response to public and agency concerns.

C-002-007

Chapter 1, *Proposed SWSA Redevelopment Program*, re-evaluates on-airport site alternatives in light of the reduced program, as presented in the 2009 NPC and herein. The Garage Structure has been reduced in both height and size, and has been relocated farther away from the nearby residential community. However, each of the other program elements—apart from additional commercial parking within the Garage Structure—has been retained in the revised Program. In addition, the Bus and Limousine Pools, which were to be relocated to the North Service Area under the Draft EIR/EA Program, have been retained within the SWSA as part of the revised Program. Even without considering landscaping and pervious areas, some of which would be required to satisfy applicable environmental standards and community concerns under any circumstances, the Program presently requires more than 41 acres of pervious surfaces to efficiently operate, serve the airport, and serve the rental car companies and customers. At least some of the additional 6.1 acres of landscaped and pervious areas proposed as part of the Program would remain necessary to meet environmental and community concerns no matter where on-airport the revised Program was to be located. Therefore, unless the Garage Structure was revised to be taller and far more massive, over 45 acres of land would be necessary to accommodate the Program no matter where on-airport the revised Program was to be located. As shown on Table 1-2, *Rental Car and Parking Planning Alternatives*, the SWSA remains the only on-airport parcel of sufficient size. The other possible on-airport site locations are all too small.

and the Boston Transportation Department (BTD) comment letter. The DEIR identified the potential Transportation Demand Management (TDM) measures that the proponent will commit to implementing. Analysis in the DEIR also showed that without the SWSA Redevelopment Program and associated ground access improvements, the projected growth for most of the major current uses in the SWSA (rental cars, taxis, limousines) would lead to an overload of the surrounding airport roadway and traffic congestion during 2012 and 2017 No-Build/No-Action Conditions.

As a result of the proposed reduction in the overall size of the project (e.g., the removal of 3,000 commercial parking spaces from the Program), the new Unified Bus System concept, and lowering of future traffic projections, the total trip generation is expected to result in 4 to 7 percent less traffic adjacent to and within the SWSA than the previously proposed program. With the proposed roadway and intersection improvements, all study area roadway and intersections are expected to continue to operate at or above acceptable levels. Similarly, the projected VMT associated with the 2009 NPC Program is anticipated to be less than projected in the DEIR (by 4 to 7 percent). The proposed fuel-efficient/clean-fueled Unified Bus System provides for a reduction in the rental car shuttle bus fleet by 70 percent (from 94 vehicles to 28 vehicles) and a reduction in the rental car shuttle bus system vehicle-miles-traveled compared to No-Build/No-Action Conditions by more than half.

- C-002-010** | In the FEIR, the project proponent should revise the Traffic Impact Assessment to reflect the changes to the project since the DEIR. The analysis should take into account the shift in trips from the SWSA to the NSA during the temporary relocation of the Bus and Limousine Pools. The FEIR also should indicate how Logan Airport air passenger and ground service peak activity periods, such as Sunday afternoon and evening arrival periods are accounted for in the traffic analysis. I note that Massport has committed to comply with the Massachusetts Idling regulation (310 CMR 7.11). Massport should post idling restriction signs in all loading and drop-off areas within the site to remind all drivers, patrons, and delivery personnel of the state's idling regulation.
- C-002-011** |
- C-002-012** | The FEIR should use the study methodology contained in the detailed BTD comment letter on the DEIR to govern the remaining traffic analysis and issues that are still outstanding.
- C-002-013** | The FEIR should continue to working with BTD, MassDOT and the community to identify further mitigation measures for areas where the project will have a significant impact on traffic operations. The FEIR should include clear commitments to implement the mitigation, and describe the timing and any phasing of the mitigation.
- C-002-014** |
- C-002-015** | The FEIR should also provide an update how this project will fit into the public transportation access to the airport. I understand that the preferred alternative will include a consolidation of the rental car bus fleet with the Blue Line shuttle bus service. The FEIR should also examine whether additional upgrades to public transit access are feasible as additional mitigation for the project. These topics should also be addressed as part of the Transportation

In many cases, those other airport parcels are already being used for other essential airport functions which cannot be displaced, or are under planning consideration for such uses in the future, and thus are not reasonably available to serve the revised Program.

Even more importantly than SWSA's appropriate size and availability for use, however, is the SWSA's excellent proximity to the key airport roadways which provide efficient access not only to the airport terminals but also to the regional highway system. The SWSA's uniquely superior access characteristics will allow the proposed Unified Bus System to improve air quality while providing convenient access to and from the MBTA Airport Station, the airport terminals, and the consolidated rental car operations. Any other airport location considered for the revised Program would make the Unified Bus System less efficient, and would likewise unnecessarily drive up Vehicle Miles Travelled by airport users.

C-002-008

Please refer to Chapter 1, *Proposed SWSA Redevelopment Program* for detailed descriptions of the proposed buffer landscaping.

C-002-009

Chapter 1, *Proposed SWSA Redevelopment Program* discusses the feasibility of below-grade parking levels.

C-002-010

Chapter 3, *Surface Transportation*, includes analysis of the North Service Area during the temporary Bus and Limousine relocation and information regarding daily and peak traffic variations for the study area.

C-002-011

In accordance with Massachusetts General Law, the anti-idling law (MGL, Chapter 111, Sections 142A - 142M), Massport will post 'no idling'

C-002-015 Demand Management analysis discussed below

Pedestrian/Bicycle

C-002-016 The DEIR described design standards for plantings, street furniture, signage, and sidewalk and crosswalk widths and paving to ensure that the pedestrian environment generally is appealing and efficient. The FEIR should continue to discuss methods of improving pedestrian safety and facilities in connection with the revised project plan, and limiting pedestrian-vehicular conflicts. I expect the proponent to continue to work closely with the City of Boston and other local neighborhood groups, agencies and landowners to coordinate streetscape design and the Airport Buffer Program. The FEIR should describe with more detail the plans to ensure that these areas especially are designed as pedestrian corridors and attractive urban open spaces.

Parking

C-002-017 During the review of the DEIR, MassDEP stated in its comment letter that while rental car storage spaces are not regulated under the Parking Freeze, the provisions of the Parking Freeze allow Massport to manage its parking space inventory on Logan Airport property as operational needs require so long as Massport does not exceed the inventory limiting number of 17,319 commercial and 3,373 employee parking spaces. The FEIR must address the specific comments (on the DEIR and the NPC) that have raised questions related to the Parking Freeze and detail how each phase of the project will comply with the mandates of the Parking Freeze.

C-002-018 The FEIR should provide additional information relative to the fuel use and emissions reductions expected from the common shuttle bus operation. Consistent with the requirements of the Parking Freeze, the FEIR should provide information on Massport's plans and efforts to relocate any remaining East Boston based rental car facilities or operations that serve Logan Airport and are not part of the proposed consolidation onto Logan Airport.

C-002-020 The FEIR should include an updated operations discussion, including: description of rental car parking access and egress routes with plans in sufficient detail to show access/egress controls; Unified Bus System drop-off, pick-up and circulation.

Air Quality

The DEIR contained an air quality assessment with a microscale analysis of localized carbon monoxide (CO) and particulate matter (PM2.5 and PM10) conditions, a mesoscale analysis of volatile organic compounds (VOCs) and nitrogen oxides (NOx) emissions in the project study area, and a greenhouse gas analysis to quantify carbon dioxide (CO2) emissions.

The microscale analysis within the DEIR applied atmospheric dispersion modeling for CO and PM2.5 and PM10 and "hotspot" modeling for roadway/intersections. The atmospheric

signs throughout the SWSA. The Massport Ground Transportation Unit actively enforces the 5-minute idling law and issues citations to violators.

C-002-012

Upon review of the BTB letter, no specific study methodology was discussed or requested. Consequently, the updated analysis presented in Chapter 3, *Surface Transportation*, was completed based on the Executive Office of Energy and Environmental Affairs (EEA)/Department of Transportation (Mass DOT) Guidelines for EIR/EIS Traffic Impact Assessment.

C-002-013

Since the filing of the 2009 NPC, Massport has met with MassDOT (the Transit and Highway Divisions) regarding the proposed traffic and transportation improvements. Massport will continue to coordinate with BTB, as needed.

C-002-014

Please refer to Chapter 7, *Beneficial Measures/Section 61 Findings*, for a summary of all Program-related beneficial measures and/or proposed mitigation.

C-002-015

Chapter 3, *Surface Transportation*, describes how the Program will provide improved access to public transportation.

C-002-016

Chapter 1, *Proposed SWSA Redevelopment Program*, provides a detailed description of the proposed pedestrian and bicycle facilities as well as measures to reduce pedestrian and vehicle conflicts and provide for pedestrian safety. The approach to urban design is also discussed in Chapter 1.

dispersion modeling was conducted using the US Environmental Protection Agency's (EPA) AERMOD, Massachusetts-specific MOBILE 6.2 motor vehicle emission factors and meteorological data collected at Logan Airport. The CO "hot-spot" modeling was conducted using the EPA CAL3QHC model combined with Massachusetts-specific MOBILE 6.2 motor vehicle emission factors.

The DEIR's mesoscale analysis predicted VOC and NOx emissions using the current US EPA emission model (MOBILE 6.2), and traffic flow conditions for the respective 2007 existing condition, and respective Build and No Build conditions for 2012 and 2017. The mesoscale analysis also was used to estimate the indirect emissions from transportation CO2 emissions associated with the additional project related vehicle trips. The calculation compared CO2 emissions for the respective 2007 existing condition, and respective Build and No Build conditions for 2012 and 2017.

The results of the atmospheric dispersion modeling and hotspot modeling indicate that the proposed project concentrations are well below NAAQS for CO and PM10/2.5. The mesoscale analysis indicates the proposed project is expected to reduce NOx emissions by 23.1 and 6.33 tons/year in 2012 and 2017, respectively, when compared to Future No-Build Conditions. The proposed project also is expected to result in reductions of up to three percent in VOC emissions when compared to the 2012 and 2017 No-Build Conditions.

Compared to the DEIR, the revised 2009 NPC is predicted to result in a reduction in air emissions and lower concentrations of nitrogen oxides (NOx), volatile organic compounds (VOCs), carbon monoxide (CO), particulates (PM), and GHG emissions. This is based on the projected reduction in vehicles (commercial parking, rental cars, and rental car shuttle buses) traveling to and from the SWSA on adjoining roadways and moving within the site and reduced VMT associated with the Bus and Limousine Pools as well as improved employee and customer access to public transit.

The Unified Bus System with a reduced bus fleet would result in reduced Program-related air emissions as a direct result of lower VMT and the use of low-emission/clean fuel and Intelligent Transportation System efficiency elements compared to both the No-Build/No-Action and 2008 DEIR Build Conditions and substantially better than the 2007 Existing Condition. The net differences in total emissions (Future Build minus No-Build/No-Action Conditions) for NOx, VOC, and CO are expected to remain well within the applicable de minimis levels of the federal CAA General Conformity Rule. The results of the atmospheric dispersion modeling of CO and PM10/2.5 in the vicinity of the SWSA are expected to remain well within the applicable federal and state guidelines.

Construction-related emissions are also expected to be less with a scaled-back Program requiring a single construction phase (compared to the previously proposed two phases). Construction-related emissions of NOx, VOC, and CO are also expected to remain well within

C-002-017

Please refer to Chapter 3, *Surface Transportation*, for a discussion on parking and compliance with the Logan Airport Parking Freeze.

C-002-018

Emissions reductions associated with the Unified Bus System are quantified and discussed in Chapter 4, *Air Quality and Noise*. A 65 percent reduction in vehicle-miles-traveled due to the Unified Bus System is projected, which equates to a savings of approximately 4,865 miles daily and about 400,000 gallons per year of fuel (depending on the Unified Bus System fuel) and approximately 5,000 CO2e emissions.

C-002-019

The off-airport sites where rental operations are currently located are owned and operated by the individual rental car companies. Massport has no jurisdiction over the use of these properties. The Authority anticipates that, by providing the ConRAC and additional storage on-airport, the need for off-airport operations will diminish significantly.

C-002-020

Please refer to Chapter 3, *Surface Transportation*.

the applicable de minimis levels of the federal CAA General Conformity Rule.

As stated in its comment letter on the DEIR, MassDEP approved the modeling parameters used in the microscale and mesoscale analyses. However, comments received on the DEIR and NPC continue to raise questions concerning the methodology. The FEIR should present a revised analysis that will account for the changes to the project presented in the NPC. The FEIR should also clarify the issues raised in the comment letters concerning the air quality analysis and further detail and justify the approved modeling parameters and analyses. This additional discussion should include, but not be limited to, further description of how the approved methodology accounts for the impact of cold starts and the extent to which the impacts of ultrafine particulates have been analyzed. I encourage the proponent to work closely with MassDEP in preparing this revised analysis.

In addition, I have received many comment letters expressing concern about the proposed project's air quality and human health impacts, including in particular potential impacts from the emission of fine and ultrafine particulates associated with "cold starts" of vehicles housed at the proposed facility. The FEIR should contain a detailed response to the comments on this topic. The response should also address the status and applicability (if any) of the state study of particulate matter that was required as part of the transportation reform legislation (Chapter 25 of the Acts of 2009) and any other studies that are taking place to examine health impacts in connection with operations at Logan Airport. Finally, the FEIR should contain a discussion of what mitigation measures the project will employ to reduce air emissions and impacts on nearby residences to the maximum extent feasible. Numerous commenters have asked whether the project could be redesigned such that the structure could be enclosed rather than open and whether air filtering technology could be used. The FEIR should contain an assessment of whether or not enclosure of the facility is feasible for this project.

I note the comments of EPA on the DEIR seeking clarification with respect to the analysis of CO emissions. Subsequent to the close of the public comment period on the DEIR, the proponent supplied additional information with respect to CO emissions. This additional information and any updates should also be included in the FEIR.

The transportation related air quality benefits associated with the proposed project are largely derived from the reduction of vehicle trips, roadway improvements, and the proposed TDM measures. The FEIR should therefore explore additional TDM measures which may yield further air quality benefits.

Greenhouse Gases

As outlined in the Certificate on the ENF, in accordance with the EEA Greenhouse Gas Emissions (GHG) Policy and Protocol, the DEIR was required to quantify GHG emissions generated by the proposed project and describe all GHG mitigation measures associated with the

C-002-021

Chapter 4, *Air Quality and Noise*, contains the updated air quality analyses and discusses the methodologies used, including information pertaining to cold-starts and ultrafine particles.

C-002-022

Please refer to Chapter 4, *Air Quality and Noise*.

C-002-023

Please refer to Chapter 4, *Air Quality and Noise*.

C-002-024

Please refer to Chapter 4, *Air Quality and Noise*, for a discussion of enclosing the Garage Structure as well as beneficial measures/mitigation proposed as part of the Program that would benefit air quality.

C-002-025

Please refer to Chapter 4, *Air Quality and Noise*, for clarification with respect to CO emissions.

C-002-026

Refer to Chapter 3, *Surface Transportation* for a description of the proposed TDM measures, including RAC participation in the Logan TMA.

project. In the DEIR C02 emissions associated with the SWSA Build Conditions are reported as 11,927 metric tons of C02 /year by 2012, and 12,836 metric tons of C02 /year by 2017. These values represent a 17 percent and 15 percent decrease in SWSA-related C02 emissions when compared to the corresponding 2012 and 2017 No-Build Conditions, respectively.

C-002-027

As noted by MassDEP, although the DEIR quantified C02 emissions from mobile sources under the Preferred Alternative (as compared to the No-Build conditions) and presented measures to avoid, minimize and mitigate project-related GHG emissions, it did not include a modeling analysis of the energy use and C02 emissions from the project's direct and indirect stationary sources which should be included in the FEIR. The DEIR represented that C02 emissions would be reduced under the Preferred Alternative as the Preferred Alternative incorporates a number of sustainable design measures beyond a code-compliant building. However, the impact of those measures needs to be quantified in the FEIR.

C-002-028

C-002-029

As recommend by MassDEP and DOER during the review of the DEIR, the energy modeling for stationary sources in the FEIR should reflect all of the specific mitigation measures selected for the building design, including the following:

- Interior natural daylighting through clearstory windows and/or skylights;
- High-efficiency lighting and lighting system controls, including potentially the use of light-emitting diode bulbs ("LEDs") and/or motion sensors (the FEIR needs to identify specifically the lighting that will be used and reflect it in the energy modeling);
- Efficient, directed exterior lighting (including potentially the use of LEDs);
- High-albedo roofing materials;
- Energy-efficient mechanical systems and high-efficiency HVAC systems;
- Architectural elements on the façade that accommodate natural ventilation;
- Window glazing and windows (included the intended U-values);
- Roof and wall insulation (with associated R-values); and
- Independent building control systems.

C-002-030

The DEIR Certificate requires that updated energy modeling results be included in the FEIR, and that they be specific in identifying the added efficiency measures as well as the project reductions in both energy usage and GHG emissions. I strongly encourage the proponent to consult with the MEPA Office and DOER the Department of Energy Resources (DOER) in preparing this revised analysis. DOER has also requested that additional mitigation measures be evaluated in the FEIR including:

C-002-031

- 1) Maximizing the thermal mass of conditioned buildings; and
- 2) Providing automated energy management control system with the capacity to:
 - Adjust and maintain set points and schedules;
 - Indicate alarms and problems; and
 - Provide information on trends and operating history.

The DEIR stated that the project will strive to meet the Mass LEED Plus program. The Mass

C-002-027

Please refer to Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, for the updated building energy modeling results and projected stationary source CO2 emissions related to the Program.

C-002-028

Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, presents the proposed transportation and building improvements and quantifies these improvements as they relate to CO2 emissions, in compliance with the *MEPA Greenhouse Gas Emissions Policy and Protocol*.

C-002-029

Please refer to Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, for an assessment of all proposed building improvements that reduce stationary source CO2 emissions.

C-002-030

Please refer to Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*.

C-002-031

Please refer to Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, for a description of the proposed automated energy management system for the Program.

Thermal massing is the property that enables a building to store and use thermal energy efficiently for extended period of time. In general, materials with higher density will have a higher thermal mass. Materials such as concrete, brick, masonry tend to absorb and release heat at a slower rate than materials such as wood, steel, and drywall, thus, providing an insulation effect.

LEED Plus standard established by the Sustainable Design Roundtable calls for energy performance in buildings greater than 20,000 sq ft, "to exceed MA Energy Code requirements by at least 20 percent." Meeting this standard would be in keeping with the MEPA GHG Policy which states that the project baseline for energy usage should be based on code-compliant buildings. However, the FEIR also needs to clarify the standard the project intends to meet. According to comments received from DOER the MA LEED plus requirement of 20 percent energy cost savings or as 20 percent energy efficiency over the baseline is not the same as the MA LEED Plus standard issued by the Sustainable Design Roundtable.

C-002-032

C-002-033

As the project design advances, I ask that the proponent to consider the feasibility of incorporating additional measures to reduce GHG emissions and to make this project a model of green building and sustainable design techniques. In particular, the DEIR mentioned that the proponent is investigating rooftop photovoltaic (PV) systems for the Customer Service Center and micro-wind on the parking structure. Massport has also indicated an interest in pursuing the use of PV systems on the parking structure as well. As noted in the Certificate on the DEIR, new installation technologies allow for PV units to be arrayed above parking spaces, maximizing utilization of space and solar exposure. The proponent should work closely with the Executive Office of Energy & Environmental Affairs and DOER to assess the feasibility of these measures at the ConRAC parking facility. The proponent's analysis of the feasibility of these measures should take into consideration the likely continued rise in the electricity prices, the continued reduction in the cost of PV, and opportunities for third party PV arrays with power purchase agreements. The proponent should clarify that the PV analysis estimates the possible generation rates based upon assumptions of available roof and garage areas and clearly explain that in the FEIR. Based upon this feasibility assessment, I ask that Massport make a firm commitment to the use of solar and/or wind power in connection with this project in order to reduce the project's energy use and greenhouse gas emissions to the maximum extent feasible.

C-002-034

C-002-035

The FEIR should also explore measures to ensure that this facility is constructed to facilitate the use of alternate fuel vehicles or vehicle sharing. The FEIR should specifically address the feasibility of designing the project to accommodate plug in hybrid or electric vehicles. It should also discuss the feasibility of requiring rental car companies that will lease space at the project to use fleets comprised of a certain minimum percentage of hybrid or electric vehicles. Finally, the FEIR should also discuss whether the project will include spaces for drop-off and pick-up of Zip Cars as an alternative to other rental car options.

C-002-036

C-002-037

The proponent should also consider the additional energy use required to provide water and wastewater treatment for the project when evaluating the overall GHG reductions that can be obtained through mitigation efforts. The FEIR should include an update on any additional measures incorporated to the project that will help reduce project-related GHG emissions. I encourage the proponent to consult with the MEPA Office concerning the additional analysis required by this section.

The Garage Structure is proposed to be constructed with concrete, which has a high thermal mass. However, as a design strategy to conserve energy the Garage Structure is being designed as an 'open' parking garage, as defined by the state building code, so not to require substantial heating/cooling/ventilation systems. Therefore, it is not effective to further evaluate maximizing thermal massing of the Garage Structure as it is not a conditioned building that would benefit from additional insulation properties.

In addition to the Garage Structure, there are five smaller sized conditioned buildings (the CSC and four QTA buildings) that will utilize high density materials. These conditioned buildings are proposed to be constructed of pre-cast concrete panels and brick and the design team will continue to take advantage of thermal massing to the greatest extent feasible; however, the conditioning of these buildings represent a small portion of the overall energy demand for the Program (lighting is the largest use of electricity).

According to the building energy modeling results for the Program as a whole (provided in Appendix C), the highest energy demand is lighting at over 50 percent of the projected total energy use. Therefore, as a strategy to meet the performance criteria of a minimum 20 percent reduction in overall energy use, the design team focused on providing high-efficiency lighting (specifically for the Garage Structure and surface parking lots) and daylighting strategies (specifically for the CSC).

C-002-032

Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, provides clarification on the LEED energy-related standard the Program intends to meet.

Sustainable Design

A development the size of the proposed project presents a host of opportunities for incorporating sustainable design elements and sustainable construction into project design, consistent with the goals of Executive Order 484 and Executive Order 385. Sustainable design elements, over the course of the project design life, can both prevent environmental impacts and reduce operating costs to the proponent.

C-002-038

I remind the proponent that stormwater regulations require that consideration be given to low impact development (LID) and the use of integrated management practices (IMP) for control of stormwater, either alone or in combination with conventional drainage control measures. LID is an approach to stormwater management that minimizes runoff impacts by maintaining and mimicking existing hydrologic functions through site design techniques such as disconnecting runoff flow pathways and dispersing stormwater control across the site, reducing imperviousness, and minimizing clearing and grading while preserving natural resources and drainage patterns. When combined with pollution prevention measures, LID can be less costly than conventional gutter and pipe drainage system and can provide redundancy for stormwater control.

Drainage/Stormwater

The existing stormwater system for the project consists of catch basins and underground piping that flow to Maverick Street and Porter Street Outfalls. The project is expected to improve the quality of runoff by upgrading stormwater management facilities site-wide, replacing uncovered vehicle surface parking with buildings and decreasing paved area.

The 2009 NPC incorporates a number of changes that are expected to result in benefits relating to drainage. The NPC states that work within the 100-foot Coastal Bank buffer would be reduced to include constructing portions of the extension of Tomahawk Drive and landscaping only (the portions of one of the two proposed QTA service areas east of Jeffries Street are being located west of Jeffries). There will be three additional acres of pervious surface area when compared to the Program assessed in the 2008 DEIR.

The proponent has been in coordination with the Boston Water and Sewer Commission (BWSC) and MassDEP. In response to MassDEP's comments on the DEIR, the stormwater management plan has progressed and has been designed to meet and/or exceed DEP's Stormwater Management Policy and Guidelines.

Under Existing Conditions, portions of the SWSA discharge stormwater to the BWSC Porter Street Outfall. The proposed new stormwater system will reduce combined sewer overflow (CSO) discharge volumes and all stormwater will be conveyed to the existing Maverick Street Outfall, which has sufficient capacity for anticipated flow. I note that the NPDES permit (No. 0000787) was issued jointly by USEPA and MassDEP. Therefore, MassDEP's review of the

C-002-033

As discussed in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, Massport is committed to providing, as part of the Program, on-site renewable energy (wind/solar) that supplements at minimum 2.5 percent of the overall energy demand. Chapter 2 also includes a summary of the on-site renewable energy sources evaluated and quantifies the CO2 emissions reduced by doubling on-site renewable energy, as a potential additional GHG mitigation measure to be considered through final design. This potential additional improvement would be contingent upon financial subsidies/assistance.

C-002-034

As discussed in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, Massport is committed to providing on-site renewable energy that would supplement the overall energy use at a minimum of 2.5 percent. Chapter 2 also provides a discussion of on-site renewable sources evaluated by the design team and the potential benefits (reductions) associated with expanding the on-site renewable energy. Massport will continue to work with EEA to explore opportunities to expand the use of on-site renewable energy sources.

C-002-035

Please refer to Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*.

C-002-036

Please refer to Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*.

C-002-037

proposed stormwater drainage system for compliance with the stormwater management standards extends to the entire site of the Southwest Service Area.

The stormwater drainage from the proposed Southwest Service Area is being directed to the Maverick Street outfall, where it may be necessary to attenuate drainage rates sufficiently to avoid CSO overflows, unless a credible and conservative stormwater analysis demonstrates that peak runoff rate controls are unnecessary. In order to properly evaluate the likelihood of unanticipated CSO occurrences, the FEIR must evaluate the runoff rate using TR20/TR55 method described in MassDEP's comment letter on the DEIR as well as the flow model required to be developed by the NPDES permit for Outfalls 001,002, and 004.

The MassDEP Stormwater Standard 3 in conjunction with Stormwater Standard 7 requires recharge to be provided to the maximum extent practicable. Given the DEIR indicates the tidally influenced high groundwater is about 6 to 8 below grade, it would appear to be practicable to induce groundwater recharge. A greater commitment to provide stormwater recharge must be made in the FEIR. In addition, the stormwater management system needs to be designed to treat one inch of runoff multiplied by the impervious area because the project site is a land uses with higher potential pollutant loads (LUHYPL), and stormwater will be discharged to a critical area.

Wastewater

The NPC reports that the total wastewater flow generated by the modified Southwest Service Area project would be about 76,396 gallons per day (gpd). This is a reduction of 3,382 gpd from the DEIR estimate of 79,778 gpd.

During the review of the DEIR MassDEP hasd advised that the project would require a certification statement rather than a sewer connection/extension permit. This still may be the applicable requirement for the increase in wastewater flow from the project, under MassDEP's sewer regulations (314 CMR 7.00). However, the FEIR should provide a revised analysis of the wastewater flow to determine whether certification or a sewer connection/extension permit is required. In deciding the appropriate filing requirement, MassDEP uses unadjusted wastewater estimates based on the rates provided in the sewer extension and connection permit regulations (314 CMR 7.15) and Title 5 regulations.

The FEIR should present a revised calculation of projected wastewater flows using the specific guidance provided in MassDEP's comment letter, and include wastewater flow and metering data from similar facilities, where available, to demonstrate that the assigned values of 3.2 gpd to rental car returns, 150 gpd/bay for the QTA service bays, and 7 gallons per vehicle to the car washing service are accurate.

I note that infiltration and inflow (I/I) mitigation is required for projects requiring either a

Please refer to Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*.

C-002-038

Please refer to Chapter 5, *Drainage and Wastewater* for a discussion on proposed LID measures.

C-002-039

In response to DEP's comments on the 2008 Draft EIR/EA, Massport provided a package of supplemental information (cover letter dated February 25, 2009), which was attached to the 2009 NPC (Attachment D). This supplemental information explained that both the NPDES flow model results (maintained by CDM on behalf of Massport) and the TR20/TR55 flow model results demonstrated that there would be a reduction in post-development flows when compared to the existing conditions. The TR20/TR55 model was found to be more conservative. Refer to Attachment 3 of the 2009 NPC Attachment D for the model comparison results.

C-002-040

Please refer to Chapter 5, *Drainage and Wastewater*.

C-002-041

Please refer to Chapter 5, *Drainage and Wastewater* for an updated wastewater generation analysis.

C-002-042

sewer certification statement or a sewer connection/extension permit, when a project in the MWRA sewer service area is required to prepare an EIR as part of a MEPA review. As explained in MassDEP's Policy, Managing Infiltration and Inflow in MWRA Community Sewer Systems, removal of four gallons of I/I is required for every gallon added to the sewer system. In the event that the proponent is unable to identify in the FEIR a plan for I/I removal work within the sewer system for the project, the proponent should seek MassDEP's approval for a financial contribution to the Boston Water and Sewer Commission's (BWSC) dedicated account for I/I abatement projects. Should it be determined that a financial contribution would be acceptable, the FEIR should commit to a timeframe for providing mitigation in relation to state and municipal permitting for the sewers.

Water

The SWSA currently receives potable water from the City of Boston Water and Sewer Commission (BWSC) which obtains water from the Massachusetts Water Resources Authority (MWRA) system. The MWRA handles the wastewater generated from the SWSA, which is ultimately treated at the Deer Island Sewage Treatment Plant in Boston Harbor. There will be a small increase in water usage and wastewater generation under the 2012 and 2017 Build Conditions due to the increase in vehicles and passengers accessing the consolidated rental car and commercial parking garage. In accordance with the goals of the MA LEED Plus program, the DEIR stated that the project will reduce water use demand through the utilization of high-efficient, low flow plumbing fixtures, car wash water reclamation systems, and water efficient landscaping (e.g., use of low-water demand vegetation and native plantings). In addition, the design of the new sanitary and stormwater drainage systems would result in an overall reduction in combined sewer overflow volumes from the Porter Street Outfall and Maverick Street Outfall Drainage Areas.

MWRA is currently completing final design of the federally court ordered East Boston Branch Sewer Relief project intended to bring CSO discharges along the East Boston shoreline into compliance with the federal Clean Water Act and state water quality standards. Any increase in flow to the East Boston system may contribute to greater surcharging and overflows during wet weather. MassDEP, in cooperation with MWRA and its member communities (including Boston), are implementing a flow control program in the MWRA regional wastewater system, to remove extraneous clean water (e.g., infiltration/inflow (I/I)) from the system.

Pursuant to 360 C.M.R. 10.023(1), the MWRA prohibits the discharge of groundwater to the sanitary sewer system, except in a combined sewer area when permitted by the Authority and the municipality. The proposed construction site of the SWSA Redevelopment Project at Logan International Airport has access to storm drains and it is not located in a combined sewer area; therefore, the discharge of groundwater to the sanitary sewer system associated with this project is prohibited. Currently, Logan International Airport holds a USEPA-NPDES General Permit for its construction activities. For the SWSA Redevelopment Project, I reiterate as stated in the ENF

C-002-042

As discussed in Chapter 5, *Drainage and Wastewater*, the replacement of the old sewer system with a new system is expected to achieve an effective reduction in I/I. Massport plans to meet with BWSC to best determine the methodology to calculate the anticipated removal of CSO from the sewer system.

certificate that Massport must comply with Logan International Airport's USEPA-NPDES General Permit for Storm Water Discharges from its construction activities.

Water Conservation

Although the main sources of GHG from this project are associated with building heating and cooling, lighting, and vehicle travel, the energy required to provide potable water and treat wastewater also will be a source of GHG, and in particular CO₂. The DEIR states that Massport's goal is to reduce water use by about 20 percent and landscape irrigation by 50 percent. The DEIR also indicates that for compliance with MA LEED Plus criteria, water use demand will be reduced by installing high-efficiency low flow plumbing fixtures, car wash water reclamation systems, and water efficient landscaping. As noted above, the FEIR also should quantify the effect of the low-flow fixtures and equipment that will be installed to reduce water demand. To achieve water and energy savings goals, consideration also should be given to using HVAC equipment with advanced evaporator coils, which have been reported to reduce water loss by about 50 percent and energy demand by up to 25 percent. Other mitigation measures appropriate for reducing energy use for water and wastewater are water distribution system improvements to eliminate un-accounted for water losses and infiltration and inflow (I/I) removal from sewer mains, which also is required to offset wastewater generated by the project which has the potential to increase sewer and combined sewer overflows.

Wetlands

The majority of the 49-acre site is not within a wetlands resource area or buffer zone. Wetlands jurisdiction extends to a small section of Harborside Drive within a buffer zone to wetlands, for which a Notice of Intent (NOI) is required to be filed. It also appears that the replacement of tidegates and stone dissipators at the outfall would entail work within coastal bank and land under water.

Noise

By consolidating and improving the efficiency of existing rental car operations, the project will help to reduce overall future noise levels in adjacent neighborhoods. The project would result in the relocation of several existing noise sources away from the adjoining neighborhoods. I am requiring that the FEIR contain an updated assessment of project-related noise impacts on appropriately sited nearby residential receptors. The FEIR should analyze both construction-period and operational noise, including noise from loading docks and service areas. The FEIR should also contain a revised assessment of noise impacts related to the ongoing construction of the proposed project. It should also discuss the quantity and type of heavy construction equipment used in the conduct of the project and a detailed estimate of pile driving activities (if any). The FEIR should also detail the total number of truck trips to and from the SWSA.

C-002-043

Please refer to Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, for the estimated quantification of the proposed water conservation measures as they relate to CO₂ emissions reductions.

C-002-044

Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, provides further details on the proposed HVAC system options for the proposed program. Proposed water and energy savings measures are also discussed in Chapter 2.

The suggested use of efficient "advanced evaporator coils" is assumed to refer to the application of a low water usage cooling towers. In this case, this technology would not apply to the Program because the system being considered uses an air cooled chiller that does not utilize a cooling tower. Consideration was given to utilizing a system that uses a cooling tower; however, it was not selected for the following reasons:

- 1) the air cooled system uses zero water vs. a cooling tower which consumes water;
- 2) the cooling tower requires that chemicals be introduced into the water to prevent corrosion and there are concerns that drift from the cooling tower plume would settle on nearby cars and other nearby surfaces; and
- 3) for these buildings, the air cooled system is a more cost effective approach when balancing first cost verses operating costs.

C-002-045

Please refer to Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*.

C-002-046

Please refer to Chapter 4, *Air Quality and Noise*, for an updated noise assessment for potential Program-related noise impacts.

Wind Impacts

The DEIR contained an analysis of pedestrian level wind impacts as it relates to air quality impacts associated with the project. The DEIR concludes that the results of a wind analysis demonstrate that the proposed SWSA Redevelopment Program (including the ConRAC facility and associated parking structure) is not expected to have any significant effect on pedestrian-level winds near the project or in the adjoining neighborhoods. The only predicted exception to this is near the corners of the garage structure and only under high wind conditions where planned landscaping in these areas will help minimize these potential effects. The FEIR should provide where available more details to the planned landscaping that will minimize wind conditions.

C-002-048

Visual Impacts

The DEIR contained an analysis of the visual impacts of the proposed project, including elements as viewed from nearby residential areas. The visual impacts are being reviewed by the City of Boston for building design. The FEIR should contain any updates of the visual analysis that occur.

C-002-049

Massachusetts Contingency Plan (MCP)/M.G.L. Chapter 21E

The DEIR contained an update on the status of the clean up efforts on the Release Tracking Numbers (RTN) areas for the site and the additional investigations in accordance with the Massachusetts Contingency Plan (MCP). I note that this project site is being regulated under MGL c. 21E (3-1611). Activities within the SWSA, particularly storage and transfer of petroleum products, have resulted in releases to the subsurface. Releases of Oil and Hazardous Material (OHM) by tenants were reported to MassDEP. According to the DEIR all but one of the RTNs have been closed out, with three resulting in the filing of an Activity and Use Limitation (AUL). The other RTN was assigned in August 2007 and the area is still under investigation. The three AUL areas will require that a soil management plan be developed by a Licensed Site Professional (LSP) and submitted to MassDEP prior to construction within those areas. The DEIR states that decommissioning of the existing rental car facilities will include the removal of older fueling systems and associated tanks (in accordance with applicable public safety regulations), which will be replaced with new state-of-the-art systems. The project will also include the remediation of subsurface contamination encountered during tank removals or other excavation activities. The DEIR also projected that replacing open surface parking areas with a parking structure would reduce the runoff from parking lots and its incidental hydrocarbon loading. The FEIR should contain any updates on the status of the clean up efforts on the RTN areas for the site.

C-002-050

C-002-047

Please refer to Chapter 6, *Construction*, for an updated discussion of potential temporary noise impacts related to construction and proposed mitigation.

C-002-048

Please refer to Chapter 4, *Air Quality and Noise*, for an overview of the pedestrian-level wind assessment and proposed landscaping aimed at buffering pedestrians.

C-002-049

Please refer to Chapter 1, *Proposed SWSA Redevelopment Program*, for an updated visual impacts analysis.

C-002-050

As discussed in the 2009 NPC, on August 20, 2008, Massport filed a Response Action Outcome (RAO) statement for Release Tracking Number (RTN) 3-27068 (the site of the new Enterprise facility on Tomahawk Drive). The remedial investigation at this location achieved a Class B-1 RAO, meaning that the contamination was found to be present at or below levels protective for current or future site uses.

Recycling Issues

The project includes demolition and reconstruction, which will generate a significant amount of construction and demolition (C&D) waste. By incorporating recycling and source reduction into the design, the proponents would have the opportunity to join a national movement toward sustainable design. The project proponent should be aware there are several organizations that provide additional information and technical assistance, including WasteCap, the Chelsea Center for Recycling and Economic Development, and MassRecycle.

Construction Period

The DEIR evaluated construction period impacts, with an emphasis on erosion and sedimentation, evaluation of the existing stormwater system and traffic impacts on adjacent roadways, air quality and solid waste disposal. The DEIR commits to a construction phasing plan that proposes to minimize disruptions in the project area and for the entire airport. Specifically, foundation work, such as pile driving, will be arranged for minimal impact and only occur for a relatively short period of time. Piles will be pre-augured through the upper 60 feet or more of soils, reducing the number of hammer blows required to seat the piles, therefore reducing the noise impact on the community. In order to reduce potential impacts from construction activities, Massport will implement a Construction Management Plan that will include:

- An Erosion and Sedimentation Control Program to minimize construction phase impacts to the nearby water resources.
- A requirement that construction contractors install emission control devices on certain equipment types in order to reduce impacts to air quality.
- Noise attenuation measures such as temporary noise barriers, re-routing traffic and/or equipment mufflers that may reduce temporary construction noise impacts within the surrounding community. Pile driving will be required to comply with a project-specific noise specification that will reflect the requirements of City of Boston noise ordinances, and will restrict the types of equipment that can be used and may limit the hours when certain activities can take place.
- Recycling of the materials resulting from removal of the existing above ground building structures, along with the below-ground foundation slabs and footings, plus all other surface asphalt and concrete that is removed during demolition will divert construction waste from landfills.

I advise the proponent to require all project contractors to install after-engine emission controls such as diesel oxidation catalysts (DOCs) or diesel particulate filters (DPFs). MassDEP commends the project proponent for committing to installing these devices to reduce engine

C-002-051 emissions. The proponent should also work with the nine abutting homeowners, as detailed in the comment letter from the Boston Transportation Department, to closely inspect the conditions of these homes prior to the commencement of construction to ensure no changes to the condition of the homes occurs as a result of any pile driving or any other heavy construction procedures required to complete the project.

Mitigation/Section 61

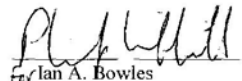
C-002-052 The FEIR should include a separate chapter updating commitments to project-related mitigation. This section should include a summary of mitigation commitments as well as draft Section 61 finding language for use by State agencies during each individual permitting process.

The updated Section 61 findings should specify in detail all feasible measures the proponent will take to avoid, minimize and mitigate potential environmental impacts to the maximum extent practicable. Section 61 findings should identify and clarify parties responsible for funding and implementation, and the anticipated implementation schedule that will ensure mitigation is implemented prior to or when appropriate in relation to environmental impacts.

Circulation

C-002-053 The FEIR should be circulated in compliance with Section 11.16 of the MEPA regulations and copies should also be sent to the list of "comments received" below and to Boston officials. A copy of the FEIR should be made available for public review at the Boston Public Library (East Boston Branch), the Revere Public Library, Chelsea Public Library and the Winthrop Public Library.

December 23, 2009
Date


for Ian A. Bowles

Comments received:

12/15/2009	Massachusetts Senator Anthony Petrucci
12/11/2009	Boston City Councilor Salvatore LaMattina
12/15/2009	Chelsea City Council President Brian Hatleberg and Councilor-at-Large Roseann Bongiovanni
11/01/2009	Avis Budget Group, Dollar Rent A Car, Vanguard Car Rental USA, Dollar Thrifty Automotive Group, The Hertz Corporation, Enterprise Rent A Car
11/12/2009	Chris DiFiore
11/12/2009	Daniel Cronin
11/12/2009	Ailysen Gray
11/12/2009	Audrey Lee

C-002-051

As discussed in Chapter 6, *Construction*, Massport will require the contractor to inspect abutting homes before and after pile driving activities.

C-002-052

Please refer to Chapter 7, *Beneficial Measures/Proposed Section 61 Findings*.

C-002-053

Please refer to Appendix A, *Final EIR/EA Distribution List*.

EEA #14137

NPC Certificate

12/23/09

11/12/2009 Rachel English
11/17/2009 Susan Parker Brauner
11/18/2009 Laura Modica
11/25/2009 Massachusetts Department of Public Health
11/25/2009 Elizabeth Mazzarini
11/30/2009 Joseph E. Steffano
11/30/2009 Boston Transportation Department
12/08/2009 Mary Ellen Welch
12/08/2009 James W. Bowen
12/09/2009 Gove Street Citizens Association
12/09/2009 Ella Arnau
12/10/2009 Lena Bernabei
12/11/2009 East Boston Community Development Corporation
12/11/2009 Lisa Gallotto
12/11/2009 Peter Koff and Mark Engel of Engel &Schultz, LLP
12/11/2009 Boston Natural Areas Network
12/11/2009 Karen Maddalena
12/14/2009 Department of Environmental Protection, NERO
12/14/2009 Gloribell Mota
12/14/2009 Gail Miller
12/14/2009 Fred Salvucci
12/14/2009 Wig Zamore (Comment letter with attachments in 3 emails)
12/15/2009 Debra Cave, President, Eagle Hill Association
12/21/2009 City of Boston, Environment Department

IAB/ACC/acc

Nov-25-09 03:15pm From: DEPT OF PUBLIC HEALTH

617-624-5183

T-284 P.002/009 F-835



Commonwealth of Massachusetts
 Executive Office of Health and Human Services
 Department of Public Health
 Bureau of Environmental Health
 250 Washington Street, Boston, MA 02108-4619
 Phone: 617-624-5757 Fax: 617-624-5777
 TTY: 617-624-5286

DEVAL L. PATRICK
 GOVERNOR

TIMOTHY P. MURRAY
 LIEUTENANT GOVERNOR

JUDYANN BIGBY, M.D.
 SECRETARY

JOHN AUERBACH
 COMMISSIONER

November 25, 2009

Secretary of Energy and Environmental Affairs
 Executive Office of Energy and Environmental Affairs
 ATTN: MEPA Office, Anne Canaday; Ref: EEA No. 14137
 100 Cambridge Street, Suite 900
 Boston, MA 02114

Dear Secretary Bowles:

This letter is in response to the Notice of Project Change for the redevelopment of the Southwest Service Area at Logan Airport. It is our understanding that Massport has reevaluated the plans set forth in the Draft Environmental Impact Report/Environmental Assessment (DEIR/EA). The Massachusetts Department of Health provided comments for the project as originally proposed on September 26, 2008. A copy of our letter is attached. The revised plans appear to be substantially different from the previous plans in that the overall size and scale of the SWSA has been reduced by approximately fifty percent. However, since the SWSA continues to plan for the consolidation of rental cars and related operations into one facility, we believe that the comments submitted on the previous plan are meritorious and should be addressed. These comments focus on the concerns associated with the impacts of the integrated facility operations on nearby neighborhoods, including consideration of susceptible populations, and the need for comprehensive air dispersion modeling and health impact assessment of mobile source emissions. Finally, we understand that the environmental assessment of the revised plans will be provided in the Final Environmental Impact Report (FEIR). Since the plans have changed substantially, we request that MEPA provide additional time for review of the FEIR.

Please contact us if you have any questions at 617-624-5757.

Sincerely,

Suzanne K. Condon, Associate Commission
 Director, Bureau of Environmental Health

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NOV 25 2009

MEPA

S-003-001

As with the previous filings on the Program, Massport is requesting an extension of the public review period for the Final EIR/EA (45 days in place of the required 30 days) to ensure that federal and state agencies, local government departments, and the public have adequate opportunity to review and comment on the Final EIR/EA.

Nov-25-08 03:15pm From: DEPT OF PUBLIC HEALTH

617-624-6193

T-284 P.003/009 F-835



Executive Office of Health and Human Services
Department of Public Health
Bureau of Environmental Health
250 Washington Street, Boston, MA 02108-4619
Phone: 617-624-5757 Fax: 617-624-5777
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DEVAL L. PATRICK
GOVERNORTIMOTHY P. MURRAY
LIEUTENANT GOVERNORJUDYANN BIGBY, M.D.
SECRETARYJOHN AUERBACH
COMMISSIONER

September 26, 2008

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs
ATTN: MEPA Office, Anne Canaday
Ref: EEA No. 14137
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Ms. Canaday:

Thank you for the opportunity to comment on the Draft Environmental Impact Report/Environmental Assessment (DEIR/EA) for the Southwest Service Area Redevelopment (SWSA) Program at Boston-Logan International Airport. The following comments focus on the summary of the Air Quality Assessment conducted for the proposed SWSA Redevelopment Program and provided in Chapter 5 of the DEIR/EA. The DEIR/EA is also being submitted for comments and possible adoption by the US Federal Aviation Administration (US FAA) under the National Environmental Protection Act (NEPA).

As you may be aware, the Massachusetts Department of Public Health, Bureau of Environmental Health (MDPH/BEH) received a legislative mandate to conduct a study of the health impacts of the Logan International Airport "...on any community that is located within a 5 mile radius of the airport and is potentially impacted by the airport." The goal of the Logan Airport Health Study is to assess the prevalence of certain health outcomes among residents of selected communities, with an effort to determine the possible relationship between opportunities for environmental exposure to activities (primarily air pollution) at Logan Airport, and the health outcomes of interest, which include respiratory, cardiovascular, and auditory endpoints. For environmental exposure data, we have conducted extensive air dispersion modeling to quantify the air quality impacts of all criteria pollutants from airport operations using US FAA's Emissions Dispersion and Modeling System (EDMS). We are now conducting the final phase of the study that involves statistical analyses of the health survey data with the environmental modeling data and describing and interpreting the results in a draft report, which will then be reviewed internally, revised, and submitted for peer-review. Our goal is to produce a final report later in the summer of 2009.

The Air Quality Assessment for the proposed SWSA Redevelopment Program evaluated emissions of motor vehicle traveling to, from and moving around the proposed SWSA area. All other sources of airport-related emissions including aircraft, ground support equipment, and stationary sources (e.g., heating plant) are not included in the Air Quality Assessment because they "are not associated with and would not be altered as a result of the SWSA Redevelopment Program (Chapter 5, page 5-6). The Air Quality Assessment consists of: (1) an emissions inventory of ozone precursors (NOx and VOCs), which is intended to "evaluate the potential impacts of the proposal on regional ozone formation"; and (2) results of atmospheric dispersion modeling of particulate matter (PM2.5, PM10) and carbon monoxide (CO) that are associated with motor vehicle emissions expected from the proposed SWSA program. The potential impacts of the proposal on air quality are predicted for existing conditions (2007), future no-build/no-action conditions (2012 and 2017) and future build conditions (Phase I – 2012; Phase II/Full Build by 2017).

The DPH/BEH has carefully reviewed the summary and appendices associated with the Air Quality Assessment for the proposed SWSA Redevelopment Program. Unfortunately, the paucity of data and information provided in the DIER/EA makes it difficult at best to evaluate the air dispersion modeling analysis. Nevertheless, we have identified a number of overarching factors that need to be considered in the DEIR/EA for this project and provided general comments on the modeling approach.

First, one of the key benefits cited in the Air Quality Assessment chapter is to "reduce air emissions associated with motor vehicle operations on the airport" by consolidating the rental car shuttle bus fleet and reducing vehicle miles traveled (VMT) associated with rental cars, taxis, limousines, vans and buses traveling to, from and moving around the airport. While we applaud the proponents desire to reduce overall emissions across the entire airport, we are concerned that the potential exists to substantially increase pollutant exposures to residents of the Jeffries Point and Gove Street neighborhoods from the collocation of all rental car services as well as the operation of a parking garage to one location along the southwest border of the airport that directly abuts these neighborhoods. Again, we recognize Massport's efforts to include air dispersion modeling in the Air Quality Assessment to predict ambient concentrations of particulate matter and CO from the proposed SWSA Redevelopment Program; however, based on the limited data provided in the DIER/EA, it does not appear that the input parameters to the model adequately simulate the upper-end of the range of motor vehicle emissions from rental car services or from the proposed parking garage. As stated above, additional comments on these concerns are provided later in this letter.

Second, we believe that the proximity of the proposed SWSA Redevelopment Program to the nearby residential communities warrants special consideration because the Massachusetts Executive Office of Energy and Environmental Affairs (EEA) has designated East Boston as an Environmental Justice community (see Figure 1). This designation indicates that the DIER/EA needs to address the public health concerns of residents that are disproportionately susceptible to increased exposures to environmental pollutants that may result from this proposed program. These concerns are supported in an East Boston study by Clougherty et al. (2007) who found an association between traffic-related pollutants – based on 18 years of data collected as part of the

S-003-002

Chapter 4, *Air Quality and Noise*, contains the results of the updated air quality assessments conducted for the SWSA Redevelopment Program as well as a synopsis of the methodology used.

S-003-003

Chapter 8, *Federal Requirements*, addresses environmental justice, in accordance with the National Environmental Policy Act (NEPA). Based on the results of the traffic/transportation, air quality, noise, and other impact analyses, the Program would not have disproportionate and/or adverse significant impacts on low-income or minority populations or children.

Massport air quality monitoring program – and asthma diagnosis among children with elevated exposure to violence and other stressors.

S-003-004 Third, given the complex nature of motor vehicle emissions, we are also concerned that dispersion modeling was limited to PM and CO. A substantial body of evidence from epidemiological studies has found strong positive and statistically significant associations between the exposure to traffic-related pollutants from living near roadways (e.g., <300 meters) and adverse health outcomes in both children and adults. Of particular importance are the studies that point to the adverse effects in children including increase in respiratory symptoms, allergic sensitization, and elevated risk for the development of asthma (McConnell et al., 2006, Nordling et al., 2008, Morgenstern et al., 2008). Associations have also been observed between long-term exposure to traffic-related pollutants, including ultrafine particles, and the risk of heart attack (Tonne et al., 2006, Brugge et al., 2007), reduced survival after heart failure (Medina-Roman et al., 2008), increased risk of coronary heart disease, particularly fatal events (Rosenlund et al., 2008), and decreased lung function in women living in urban areas (Suglia et al., 2008). In addition, our own Bureau released a study several months ago that demonstrated statistically significant associations between pediatric asthma and residential proximity to high traffic areas in the Merrimack Valley (MDPH, 2008).¹

S-003-005 We are also concerned with a key finding in Chapter 5 that implies that the predicted 24-hour exposures to PM_{2.5} of 34 µg/m³ are not a public health concern. The US EPA Staff Paper found sufficient evidence to support an air quality standard for 24-hour concentrations of PM_{2.5} as low as 25 µg/m³. Furthermore, given the continuum of health effects associated with particulate matter exposures at current ambient levels, strong evidence indicates that additional exposures associated with fresh motor vehicle emissions, including ultrafine particles, may present serious public health concerns (US EPA, 2005).

Specific comments on the Air Quality Assessment are as follows:

1. MDPH/BEH recognizes that emissions inventory data in general may be useful for long-range regional planning objectives, but these data alone do not provide sufficient information for public health and environmental protection agencies to assess potential public health impacts from airport operations.
2. The DPH/BEH applauds Massport for conducting atmospheric dispersion modeling to assess air quality impacts in the vicinity of the proposed redevelopment area, including receptors in the Jeffries Point and Gove Street neighborhoods. However, we have specific concerns about the input to the AERMOD model. For example, it is unclear whether MOBILE 6.2 emission factors are appropriate to estimate the emissions from rental car services and emissions from the parking garage. Our concern is whether start-up or cold start emissions, which can be an order of magnitude higher than stabilized exhaust emissions, have been adequately evaluated in the Air Quality Assessment (Singer et al., 1999). According to Singer et al. (1999) at start-up the fuel-air mixture is intentionally enriched to facilitate ignition and improve cold engine operations. This enrichment leads to increased production of CO and HC during combustion, and limits the oxidation of

S-003-006

¹ http://www.mass.gov/Eoehhs2/docs/dph/environmental/tracking/asthma_merrimack_valley_report.pdf

S-003-004

As presented in Chapter 4, *Air Quality and Noise*, PM and CO were analyzed as part of the dispersion modeling, in accordance with the Secretary's Certificate on the 2007 ENF.

S-003-005

The PM_{2.5} dispersion model results are compared to the current air quality standards for this pollutant. Presently, as discussed further in Chapter 4, *Air Quality and Noise*, this is the only regulatory-based comparison that can be made for PM.

S-003-006

Chapter 4, *Air Quality and Noise*, contains information pertaining to cold-start emission factors used in the updated air quality analyses.

these pollutants in the catalytic converter. In additional automobile catalysts must reach temperatures above 400-700 degrees Fahrenheit before significant pollution conversion is achieved. Longer periods of vehicle inactivity and lower ambient air temperatures increase the heating required for the catalyst to reach effective operating temperatures, and thus prolong the period of elevated exhaust emission rates. There are also increased fractions of unburned fuel and acetylene during cold start vs. during hot stabilized driving. In addition, the US EPA Office of Transportation and Air Quality analysis of MOBILE 6.2 found that emission factors for cold start substantially underestimate emission of gaseous air toxics for light-duty vehicles and trucks meeting the EPA's most recent standards (Cook et al., 2007). For example, given this information, it would be important to determine whether the air dispersion modeling has taken into account the potential impact of cold start emissions from these vehicles under different meteorological conditions (e.g., stagnation), different seasonal temperatures, and other factors that promote particle formation or increase motor vehicle emissions.

S-003-007

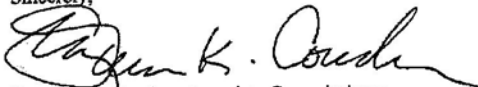
S-003-008

3. Air dispersion modeling of motor vehicle emissions should be extended to all pollutants associated with the motor vehicle exhaust including SO₂, NO_x, VOCs and air toxics (e.g., benzene, aldehydes). We also believe that the assessment should include potential exposure to volatile hydrocarbons from evaporative emissions and exposure to various fuel formulations, including ethanol. Since the EDMS air dispersion modeling module works in tandem with the emissions inventory module that was used to estimate the emissions of ozone precursors presented in the Air Quality Assessment, we believe this analysis can be generated quickly and cost effectively. Furthermore, Massport can augment this modeling analysis with their extensive ambient NO₂ monitoring database referred to above.

In summary, given the proximity of this proposed SWSA Redevelopment program to a residential community pre-designated as an environmental justice area, and the compelling health effects data associated with human exposure to motor vehicle exhaust, we believe that a more rigorous environmental health assessment of motor vehicle emissions from this proposed program needs to be conducted.

Thank you for considering our comments. Please feel free to contact us if you have any questions at 617-624-5757.

Sincerely,



Suzanne K. Condon, Associate Commissioner
Director, Bureau of Environmental Health

S-003-007

Chapter 4, *Air Quality and Noise*, contains the updated air quality analyses and discusses the methodologies used, including information pertaining to cold-starts and ultrafine particles.

S-003-008

Please see the response to Comment S-003-004.

References

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11/27/2009 15:17 FAX 617 626 1181
Nov-25-09 09:16pm From-DEPT OF PUBLIC HEALTH

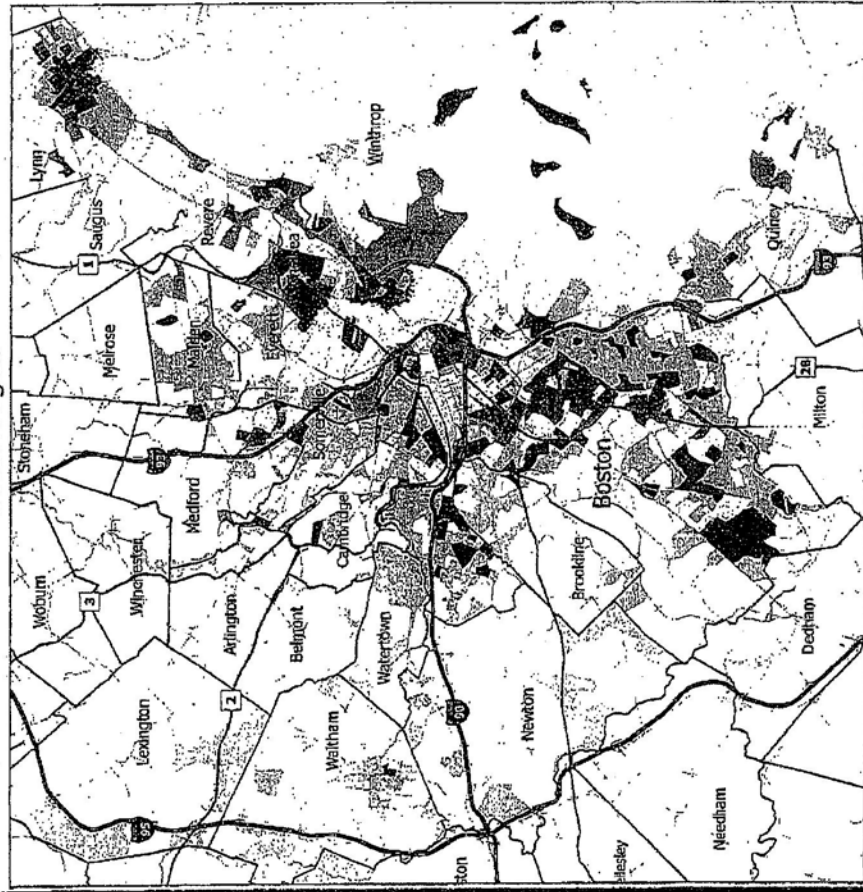
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617-624-5183

022/024
T-284 P.009/009 F-835

Tonne T, Melly S, Mittleman M, Coull B, Goldberg R, Schwartz J. 2007. A case-control analysis of exposure to traffic and acute myocardial infarction. *Environmental Health Perspectives* 115(1):53-57.

US EPA, 2005. Review of the National Ambient Air Quality Standards for Particulate Matter: Policy Assessment of Scientific and Technical Information, OAQPS Staff Paper. EPA-452/R-05-005a. December 2005.

Figure 1 Environmental Justice Populations
 Boston Region



Massachusetts Environmental Justice Criteria:
 Environmental Justice (EJ) populations are defined by the following criteria:
 - Minority status (60% or more of the population is a minority group)
 - Income (household income less than \$15,000)
 - Language proficiency (25% or more of residents are English language learners)
 - English language proficiency (25% or more of residents are English language learners)
 - Populations meeting one EJ criterion
 - Populations meeting two EJ criteria
 - Populations meeting three EJ criteria
 - Populations meeting all four EJ criteria

For more information contact:
 Janet Calkins, EJ Policy Program Coordinator
 617-624-1030
 janet.calkins@state.ma.us





COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NORTHEAST REGIONAL OFFICE

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DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

IAN A. BOWLES
Secretary

LAURIE BURT
Commissioner

December 14, 2009

Jan A. Bowles, Secretary
Executive Office of
Energy & Environmental Affairs
100 Cambridge Street
Boston MA, 02114

RE: East Boston
Southwest Service Area Redevelopment
Program at Boston-Logan International Airport
EEA # 14137 (previously 9790, 12216)

Attn: MEPA Unit

Dear Secretary Bowles:

The Massachusetts Department of Environmental Protection, in collaboration with the Division of Energy Resources in the Executive Office of Energy and Environmental Affairs (EEA/DOER) has reviewed the Notice of Project Change (NPC) submitted by the Massachusetts Port Authority (Massport) to demolish existing structures in order to expand the ground transportation facilities, including a four-story, 1.4 million square foot parking garage for 3,120 vehicles, (reduced from five-stories and 2.77 million square feet), for the consolidation of airport rental car operations and some limited commercial parking on a 49-acre site in East Boston (EEA #14137). Maintenance and storage areas for rental car operations, which are referred to as quick turnaround areas (QTAs), would provide fueling, car washing and cleaning facilities, and vehicle storage. In addition, relocation of the taxi and bus/limousine operations, addition of 2,350 surface parking spaces for long term commercial vehicle overflow, and relocation of the Flight Kitchen to the North Service Area are planned. The Department provides the following comments.

Wastewater

The NPC reports that the total wastewater flow generated by the modified Southwest Service Area project would be about 76,396 gallons per day. This is a reduction of 3,382 gpd from the Draft Environmental Notification Form (DEIR) (Chapter 8) estimate of 79,778 gpd.

MassDEP advised the Secretary previously that the project would require a certification statement rather than a sewer connection/extension permit, and this still may be the applicable requirement for the increase in wastewater flow from the project, under MassDEP's sewer regulations (314 CMR 7.00). However, the FEIR should provide a revised analysis of the

S-004-001

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD# 866-539-7622 or 617-574-6868.
<http://www.mass.gov/dcp> • Fax (978) 694-3499

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S-004-001

Please refer to Chapter 5, *Drainage and Wastewater*, for an updated wastewater generation analysis.

Southwest Service Area Redevelopment Program at Boston-Logan International Airport BEA # 14137

S-004-001 wastewater flow to determine whether certification or a sewer connection/extension permit is required.

S-004-002 In deciding the appropriate filing requirement, MassDEP uses unadjusted wastewater estimates based on the rates provided in the sewer extension and connection permit regulations (314 CMR 7.15) and Title 5 regulations. Previous estimates of wastewater generation in the DEIR (Table 8-5) are reduced by 20 percent to reflect the water use reductions anticipated with proposed water conservation measures. MassDEP also has found that two of the wastewater generation rates used in the analysis are inconsistent with the sewer regulation rates. In addition, the wastewater calculation subtracts out existing wastewater flow, after increasing that flow to take into account growth projections for the 2017 No Build condition. In computing wastewater flow for permitting decisions, when there is existing wastewater flow to be abandoned, MassDEP allows the subtraction of an unadjusted existing flow. This means that existing wastewater flow rates in DEIR, Table 8-3 must be substituted for those from Table 8-4 that were used in the calculation.

After making corrections described above, MassDEP estimates that the Southwest Service Area project would increase the wastewater flow by 43,469 gpd, which is consistent with the estimate of 43,232 gpd in the Environmental Notification Form. The data used to recalculate the project's increased wastewater flow are shown in the following table.

Table: Estimate of Project's Wastewater Generation Using Massachusetts Sewer Regulations (Data from DEIR, Tables 8-3, 8-4 and 8-5)

Proposed use	Use Category	Quantity	Units	Generation Rate	Revised Gen. Rates 314CMR 7.15	Units	Average Flow (gpd)	Revised Average Flow (gpd)
Rental car returns	Customers	9,236	customer	3.2	3.2	gpd	29,556	29,556
RAC CSC/QTA	Retail Space	77,682	sf	0.04	0.05	gpd/sf	3,107	3,884
RAC CSC/QTA	Office Space	106,577	sf	0.076	0.075	gpd/sf	6,395	7,993
QTA Service Bays	Service Bays	18	bays	150	150	gpd/bay	2,700	2,700
QTA (car washing, clean water)	Car washing	5,433	av/veh/day	7	7	gal/veh	38,031	38,031
TOTAL							79,778	82,163
Revised TOTAL (increased by 20% to account for water conservation deduction that was taken)							99,722	102,703
Subtract Estimated Wastewater Flow from 2017 No Build (Included to show that No Build increase requires Certification) Note: This estimate is not adequate for sewer permitting)							78,050	
Subtract Existing Flow (DEIR Table 8-3) (without the InFlight Kitchen)								59,234
TOTAL FOR SEWER PERMITTING DETERMINATION							21,678	43,469

S-004-002

Please refer to Chapter 5, *Drainage and Wastewater*, for an updated wastewater generation analysis.

Southwest Service Area Redevelopment Program at Boston-Logan International Airport EEA # 14137

S-004-003

However, before MassDEP agrees that a certification statement is required by the sewer regulations because the project's increase in wastewater is less than 50,000 gpd and greater than 15,000 gpd, supporting information, including wastewater flow and metering data from similar facilities, where available, needs to be provided to demonstrate that the assigned values of 3.2 gpd to rental car returns, 150 gpd/bay for the QTA service bays, and 7 gallons per vehicle to the car washing service are accurate.

S-004-004

While MassDEP recognizes the benefits of the proposed water conservation measures, infiltration and inflow (I/I) mitigation also is required for projects requiring either a sewer certification statement or a sewer connection/extension permit, when a project in the MWRA sewer service area is required to prepare an EIR as part of a MEPA review. As explained in MassDEP's Policy, *Managing Infiltration and Inflow in MWRA Community Sewer Systems*, removal of four gallons of I/I is required for every gallon added to the sewer system.

In the event that the proponent is unable to identify in the FEIR a plan for I/I removal work within the sewer system for the project, the proponent should seek MassDEP's approval for a financial contribution to the Boston Water and Sewer Commission's (BWSC) dedicated account for I/I abatement projects. Should it be determined that a financial contribution would be acceptable, it is requested that the proponent commit to a timeframe in the FEIR for providing mitigation in relation to state and municipal permitting for the sewers.

Greenhouse Gas (GHG) Analysis (Stationary Sources)

The DOER commends the proponents for their commitment to target a MA LEED rating (page 1-21), and would like to take the opportunity to reiterate that DOER prefers that the GHG reduction, (estimated at 20 percent), not to be based on cost, but on the energy usage per square foot per year.

S-004-005

The Secretary's DEIR Certificate requires that updated energy modeling results be included in the FEIR, and that they be specific in identifying the added efficiency measures as well as the project reductions in both energy usage and GHG emissions. With that in mind, DOER would like to add two additional mitigation measures to those included in the *(Revised) MEPA Greenhouse Gas Emissions Policy and Protocol*, Appendix-Suggested Mitigation Measures for the proponent to consider in the modeling and design process.

S-004-006

- 1) Maximize the thermal mass of conditioned buildings.
- 2) Provide automated energy management control system with the capacity to:
 - a. Adjust and maintain set points and schedules;
 - b. Indicate alarms and problems; and
 - c. Provide information on trends and operating history.

S-004-003

Refer to Chapter 5, *Drainage and Wastewater* for the revised wastewater calculations, in accordance with DEP's Title 5 guidelines. Appendix F provides back-up documentation for QTA wastewater reuse assumption used for the 2018 Build Condition.

S-004-004

As discussed in Chapter 5, *Drainage and Wastewater*, the replacement of the old sewer system with a new system is anticipated to achieve a reduction in I/I. Massport plans to meet with BWSC to determine the methodology for calculating the CSO reduction to the sewer system.

S-004-005

Please refer to Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, for updated building energy modeling results.

S-004-006

Please refer to Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, for a description of the proposed automated energy management system.

Thermal massing is the property that enables a building to store and use thermal energy efficiently for extended period of time. In general, materials with higher density will have a higher thermal mass. Materials such as concrete, brick, masonry tend to absorb and release heat at a slower rate than materials such as wood, steel, and drywall, thus, providing an insulation effect. The Garage Structure is proposed to be constructed with concrete, which has a high thermal mass. However, as a design strategy to conserve energy the Garage Structure is being designed as an 'open' parking garage, as defined by the state building code, so not to require substantial heating/cooling/ventilation systems. Therefore, it is not effective to further evaluate maximizing thermal

Southwest Service Area Redevelopment Program at Boston-Logan International Airport EEA # 14137

The MassDEP and EEA/DOER appreciate the opportunity to comment on this proposed project. Please contact Jack.Zajac@state.ma.us, at (978) 694-3240 for further information on the wastewater issues. If you have further questions on GHG issues, the MassDEP contact is Philip.Weinberg@state.us, (617) 292-5972, and the DOER contact is John.Ballam@state.ma.us, (617) 626-1070. If you have any general questions regarding these comments, please contact Nancy.Baker@state.ma.us, MEPA Review Coordinator at (978) 694-3338.

Sincerely,

John D. Viola
Deputy Regional Director

cc: Brona Simon, Massachusetts Historical Commission
Phil Weinberg, Christine Kirby, Tom Maguire, MassDEP-Boston
John Ballam, EEA/DOER
Kevin Brander, Jack Zajac, Rachel Freed, Jill Provencal, MassDEP-NERO
Marianne Connolly, MWRA
John E. Sullivan, BWSC
City of Boston, Conservation Commission

massing of the Garage Structure as it is not a conditioned building that would benefit from additional insulation properties.

In addition to the Garage Structure, there are five smaller sized conditioned buildings (the CSC and four QTA buildings) that will utilize high density materials. These conditioned buildings are proposed to be constructed of pre-cast concrete panels and brick and the design team will continue to take advantage of thermal massing to the greatest extent feasible; however, the conditioning of these buildings represent a small portion of the overall energy demand for the Program (lighting represents a larger portion of the overall energy demand).

According to the building energy modeling results for the Program as a whole (provided in Appendix C), the highest energy demand is lighting at over 50 percent of the projected total energy use. Therefore, as a strategy to meet the performance criteria of a minimum 20 percent reduction in overall energy use, the design team focused on providing high-efficiency lighting (specifically for the Garage Structure and surface parking lots) and daylighting strategies (specifically for the CSC).



COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS SENATE

STATE HOUSE, BOSTON 02133

SENATOR ANTHONY PETRUCCELLI
FIRST SUFFOLK AND MIDDLESEX
ROOM 413-B
TEL. (617) 722-1634

RECEIVED
DEC 15 2009
MEPA

December 15, 2009

Secretary Ian A. Bowles
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

and

Alicia McDevitt, MEPA Director
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900

RE: Southwest Service Area Redevelopment Program at Boston-Logan International Airport

Dear Secretary Bowles and Director McDevitt:

While we are encouraged by a number of the proposed changes to the program of the Southwest Service Area Redevelopment Plan, we feel that there are still unanswered questions and issues that need to be addressed before the plan is allowed to proceed. With that said, we offer the following comments on the Notice of Project Change (NPC) for the proposed Southwest Service Area Redevelopment Program at Logan International Airport.

The environmental theory on the concept of a consolidated rental car facility sounds promising. We believe that the proposed "unified bus system" is a significant improvement for the surrounding environment as opposed to the current multitude of diesel buses that are operated by the individual rental car companies. However, while one can assume that the reduction of vehicle miles traveled by commercial cars, rental cars and shuttle buses will lead to significant reductions in emissions, the lack of scientific data in this document to support these claims is troubling. We would suggest that a more detailed scientific analysis of the various elements,

S-005-001

S-005-001

Emissions of NOx, CO, VOCs, and Particulate Matter (PM) have been assessed for the Program. Please refer to Chapter 4, *Air Quality and Noise* for the analysis results. Program-related stationary and mobile source Greenhouse Gas emissions are assessed in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*.

S-005-001

including volatile organic compounds (VOC), nitrogen oxides (NOx), Carbon Dioxides and particulates, be conducted in order to better inform the public of the impacts of this proposal. Furthermore, the relocation of the taxi pool to an area that appears to be closer to parks, ball fields and residences is concerning. Massport should provide a more detailed analysis of the environmental impacts on the nearby neighborhood and why there are no alternative locations that are more suitable for this use.

S-005-002

While Massport has done a good job in recent years to modernize its various fleets of vehicles to be more environmentally friendly, we are unsure of the same level of commitment from its tenants. The final report should address this issue with greater detail. The development of a new rental car facility presents an opportunity to move the rental car companies in that direction. There should be thresholds established in the certificate for the various companies that will be using this facility, as related to the composition of their fleets and with regard to hybrid cars and electric cars. Will the proposed facility contain the proper infrastructure required to allow for these vehicles?

S-005-003

Finally, as the proposed development is being designed and built by a quasi-public agency, it should be held to a higher standard for promoting green technology. The use of solar panels should be more aggressively explored as a component of the final product.

S-005-004

While there have been improvements made with the filing of the NPC, there are still changes that need to be explored. Massport and the Commonwealth should take their time, exhausting all of the alternatives requested by those commenting, in order that the final product is truly a building for the future.

Sincerely,

ANTHONY PETRUCELLI
State Senator

S-005-002

The impact analyses presented herein take the Taxi Pool into account at its proposed location north of Porter Street. Refer to Chapter 1, *Proposed SWSA Redevelopment Program*, for a detailed description of the proposed landscape buffers aimed at screening the uses of the SWSA, including at the Taxi Pool, from the community and Memorial Stadium.

S-005-003

Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, discusses the use of alternative/low-emitting rental vehicles. Also, the Garage Structure will include the infrastructure necessary to accommodate future plug-in stations for electric vehicles.

S-005-004

Please refer to Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, for a discussion on proposed on-site renewable energy.



BOSTON
TRANSPORTATION
DEPARTMENT

ONE CITY HALL PLAZA/ROOM 721
BOSTON, MASSACHUSETTS 02201
(617) 635-4680/FAX (617) 635-4295

November 19, 2009

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NOV 30 2009

EEA

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs
ATTN: MEPA Office, Anne Canaday
Ref: EEA No. 14137
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

Re: Massport's Notice of Project Change for the Southwest Service Area.

Dear Ms. Canaday:

The Boston Transportation Department (BTD) has reviewed the document listed above and is pleased to submit the following comments for your review.

There are many positives involved with this Notice of Project Change (NPC). The removal of commercial parking is the major component of the NPC. Also, the overall size and scope of the project has been reduced to a point that will reduce environmental impacts.

However, the consolidated rental car facility (ConRAC) remains an extremely substantial project and should receive meticulous environmental attention.

Buffer Park

B-002-001

Additional pervious/landscaped areas will provide an improved buffer to those residents abutting the development. It will be important that Massport provide the equivalent level of maintenance to the Southwest Service Area Buffer that they supply to Bremen Street Park and Piers Park. In fact, it will require Massport to provide an even greater level of attention due to the proximity of homes directly abutting the project. It must be remembered during this process, that the buffer portion of this development will be open to the general public and abutters to the project will be exposed to individuals walking, jogging or cycling on a daily basis. This will be a new situation for the abutters and a learning process will be required. Massport should be responsible to act quickly upon issues that may arise behind the nine (9) homes abutting the project.

THOMAS M. MENINO, Mayor
Thomas J. Tiella, Commissioner

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AC

B-002-001

This project will include a greater area of landscape/pervious area than previously reported in the 2008 Draft EIR/EA. Please refer to Chapter 1, *Proposed SWSA Redevelopment Program*, for description of the proposed landscape treatments.

Page 2. Notice of Project Change for the Southwest Service Area Redevelopment Project.

Construction Issues

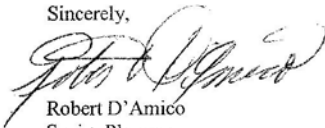
B-002-002

Construction for the Southwest Service Area Redevelopment Program will take place on land that is primarily land fill and could present a plethora of problems to the nine (9) homes abutting the project. BTD would like to suggest that Massport take precaution and work with the homeowners to closely inspect the condition of these homes prior to the commencement of construction to ensure no changes to the condition of the homes occurs as a result of any pile driving or any other heavy construction procedures required to complete the project.

In closing, BTD looks forward to work with Massport to develop a truck route that will be effective towards the project with minimal impact of the Jeffries Point Neighborhood.

If you have any questions, please call me at 617-635-3076.

Sincerely,



Robert D'Amico
Senior Planner

B-002-002

As described in Chapter 6, *Construction*, Massport will require the contractor to closely inspect abutting homes to ensure that there are no changes in the conditions of these homes due to pile driving activities.

BOSTON TRANSPORTATION DEPARTMENT
ONE CITY HALL PLAZA/ROOM 721, BOSTON, MA 02201 • (617) 635-4680

Printed on recycled paper

December 18, 2009

Ian A. Bowles, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, 9th Floor
Boston, MA 02114
Attention: Anne Canaday, MEPA Office

Re: Southwest Service Area Redevelopment at Boston Logan International Airport
Notice of Project Change
EEA #14137

Dear Secretary Bowles:

The City of Boston Environment Department has reviewed the Southwest Service Area (SWSA) Redevelopment at Boston Logan International Airport (Logan) Notice of Project Change (NPC) and offers the following comments.

The project will include:

- A garage and Customer Service Center (CSC) for consolidated car rental.
- Quick Turn Around (QTA) maintenance and service facilities.
- A shuttle bus system for rental car patrons combined with Massport's existing shuttle system to for a Unified Bus System.
- A relocation and reconfiguration of the existing Taxi Pool and Limousine Pool;
- Demolition of the Flight Kitchen.
- Roadway and intersection modifications, pedestrian and bicycle facilities and site landscaping including the Phase II SWSA Landscape Edge Buffer.
- The Flight Kitchen will be relocated to the North Service Area (NSA).

Changes since the Draft Environmental Impact Report/Environmental Assessment (DEIR/EA) are:

- The project's gross square footage (GSF) will be reduced from 2.7 million GSF to 1.4 million.
- The height of the garage structure will be 47 feet, down from 65 feet and the number of floors from four plus roof to three plus rental car parking on the roof.
- The garage is shifted east.
- The transfer of 3,000 commercial parking spaces from off site to the project site has been eliminated from the project.
- The number of structured parking spaces has been reduced from 7,600 to 3,120.
- The number of surface parking spaces has been increased from 2,010 to 2,350.
- The number of vehicle trips per day (VTD) is expected to be 32,688, down from 34,099.
- The setback from airport edge and residential neighbors has been increased.
- A 3.1 acre reduction in impervious area.

The DEIR/EA states that by shifting the garage to the east, the majority of the structure will be shielded from residences on Maverick Street by the existing 18-foot noise barrier.

The project will be constructed in a single phase; preparations beginning in 2010 with construction from 2011 through 2015. The vast majority of the project - Customer Service Facilities, Garage Structure and QTA numbers one and four are expected to be operational in 2013. QTAs two and three and the relocations of the taxi (310 spaces) and the bus and limousine pool (370 spaces) and 25,000 SF administration building are expected to be complete in 2015.

Massport expects to generate at least 2.5 percent of the projects total energy demand using solar and/or wind technologies and hopes to achieve LEED Silver certification.

As the project was to be phased, the DEIR/EA indicated that the garage structure be designed to facilitate future expansion with façade treatments that would be easily demountable for reuse on or off site. This specification demonstrates Massport's attention to sustainability in a broad sense and to the specifics of construction and demolition reuse and recycling. Given that future growth at Logan may trigger a need to expand some buildings at the project site, we suggest that, to the greatest extent possible, materials that can be easily deconstructed for reuse and recycling be utilized.

Some excess building materials from this project may be reusable. The non-profit Building Materials Resource Center (BMRC), an affiliate of the Boston Building Materials Cooperative (BBMC), sells materials to the public at low prices with low- and moderate-income customers and nonprofits eligible for a considerable discount. BMRC staff can be contacted at 617-442-8917 to discuss whether materials that will be used for the project are potentially reusable by their customers.

We applaud Massport for its continuing sustainability efforts. We strongly support rainwater collection/retention and ask that the FEIR discuss the potential benefits and detriments of collection points at perimeter planting areas, the ramp roof and bus loop areas.

The project includes a Unified Bus System which will combine existing individual rental car shuttles with those now serving terminals and Airport Station (22, 33, and 55). The system will reduce the size of the rental car shuttle bus fleet from 94 to 28 vehicles. Existing shuttles serving long-term parking, employee lots, the water taxi and Logan Office Center will continue to operate separately.

B-003-001 We ask that the Final Environmental Impact Report (FEIR) clarify whether the 28 vehicles will be new vehicles or existing RAC vehicles that will drive the expanded 22, 33 and 55 routes.

B-003-002 Does not appear that there are electric vehicle recharging stations included in the project. Given the likelihood that electric vehicles will become more prevalent, we suggest that they be installed in the parking structure and in areas that could be used by taxis, limousines and other vehicles that will use the project site.

B-003-003 This department again requests details about all structures proposed as part of the project, including scaled renderings of sections. The height of each structure should be shown from the ground plane and include each piece of mechanical or other energy-generating equipment. Buffer heights, light poles, any pole or other structure used to support equipment such as loudspeakers should be identified as should the location and size of ramps, the size and locations of building openings and other façade elements their light trespass, including vehicle headlights, and noise generation characteristics described. The design of all facades should be clearly depicted so that the potential for the trespass of noise, light and

B-003-001

The Unified Bus System vehicles will be new, 60-foot articulated buses with a clean-fuel, low-emission propulsion system.

B-003-002

As discussed in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, the Garage Structure includes infrastructure necessary to accommodate future demands for electric plug-in stations, such as conduit and electrical capacity.

B-003-003

Please refer to Chapter 1, *Proposed SWSA Redevelopment Program*, for a current description of the architectural, aesthetic, and visual considerations that are proposed for the structures, including air emissions, noise, light spill, and views.

B-003-002

Particular emissions is clear. We also ask that the FEIR include:

- A map showing the locations of any existing loudspeakers and one showing the locations, if any of loudspeakers that will be part of the proposed project. The use and level of sound generation during operation of the project should be described and quantified.
- The location(s) and sound profiles of emergency generator(s) should be described and quantified.
- Section renderings of the project from the perspective of the Gove Street and Jeffries Point neighborhoods so that the visual effect is clear. Lighting should be identified.

Reprinting of the photographs in Figures 3.7 and 3.8 from the DEIR/EA with the addition of project structures and with view corridors at full build would also be helpful.

Climate Change

Section 7 of Massachusetts' Chapter 298 of the Acts of 2008, **AN ACT ESTABLISHING THE GLOBAL WARMING SOLUTIONS ACT**, states that, "Section 61 of chapter 30 of the General Laws is hereby amended by inserting after the first paragraph, as appearing in the 2006 Official Edition, the following paragraph:

"In considering and issuing permits, licenses and other administrative approvals and decisions, the respective agency, department, board, commission or authority shall also consider reasonably foreseeable climate change impacts, including additional greenhouse gas emissions, and effects, such as predicted sea level rise."

B-003-005

Massport should determine the project's vulnerability to increased levels of coastal flooding due to anticipated sea-level rise in the next 100 years. As the area is exposed to coastal flooding, the current 500-year-flood zone should be considered in planning and design. Vulnerability should address both structural and operational issues, particularly given the significant presence of petroleum products that will be stored, used and otherwise present at the site.

As a result of the potential for flooding, stormwater management systems may also need to be sized for higher precipitation levels than the current design standards. Even when buildings are not compromised during a storm, roadways may flood, making them impassable. So, the potential effects on transportation accessibility must also be assessed. These two aspects of stormwater management speak to the benefits of a broad response and the importance of LEED stormwater-related credits.

Climate change is likely to increase average summer temperatures, the number of days over 90 or 100 degrees, and the number of consecutive high-heat days leading to increased stress on the electrical grid. We appreciate Massport's efforts to address greenhouse gas issues to plan some on-site power generation. At the same time, we note that the amount of blacktop necessary at Logan makes it more vulnerable to heat than areas in which other options are more widely viable.

B-003-006

We ask that the FEIR include a discussion and propose measures to address potential flooding and an assessment of the sufficiency of project systems and green infrastructure (e.g., plantings for shade, green roof) to keep buildings and their occupants safe during heat waves without the use of life-safety/emergency systems (e.g., generators) that may add to ozone pollution levels and increase the heat island effect.

Air Quality

The DEIR/EA listed on page 5-2 Massport's goal to reduce energy use by at a minimum 20 percent which would reduce greenhouse gas (GHG) and other emissions through a combination of the following types of measures:

- Microturbine units on the parking structure;
- Solar panels possibly on the roof of the CSC;

B-003-004

As discussed in Chapter 4, *Air Quality and Noise*, the elimination of speakers from the rental car maintenance facilities (the QTAs) is included as part of the Program. The upgraded Taxi Pool is being relocated within the SWSA further away from the residential community. Although the Taxi Pool will include speakers as necessary to supplement the visual dispatching system, the new speakers will be designed and placed to minimize associated noise.

Please refer to the community perspective figures in Chapter 1, *Proposed SWSA Redevelopment Program*, for proposed views into the SWSA from the adjacent neighborhood.

B-003-005

In response to BED's comment, Massport has reviewed the Federal Emergency Management Agency (FEMA) floodplain maps and the 500-year flood zone does not appear to extend beyond north of Maverick Street and, therefore, into the SWSA boundaries. Furthermore, the location of the proposed buildings and fuel tanks would not be impacted by such a storm, which according to FEMA has an extremely low probability (0.2%) of happening in any given year.

B-003-006

In accordance with the LEED Green Building Rating System, the Program increases the amount of pervious surface area through the incorporation of landscaping to reduce the heat island effect. Additionally, the Garage Structure will be constructed out of light-colored concrete and all buildings will include light-colored roofing materials to reduce heat absorption.

- Architectural elements on the façade that accommodate natural ventilation;
- Highly-reflective (high-albedo) roofing materials;
- Interior natural daylighting through clearstory windows and/or sky lights combined with high-efficiency lighting and lighting system controls;
- Master and sub-system utility metering strategies;
- Independent building control systems; and
- Window glazing.

The following scenarios of lower to higher efficiency HVAC systems are being evaluated:

- QTAs - gas-fired heaters and packaged rooftop units versus gas-fired boiler, fancoil units, and hydronic heating terminal units;
- On the CSC - rooftop packaged DX VAV system versus VAV air-handling units and water cooled chillers;
- Eliminating or reducing use of refrigerants in HVAC systems;
- Incorporating motion sensors and lighting and climate control in all public areas;
- Using efficient, directed exterior lighting;
- Installing water-efficient plumbing fixtures; and
- Utilizing renewable energy sources, including wind and/or solar:
- Installing microturbine units (similar to those in operation on the Logan Office Center). Based on the success of these units to supplement the building's energy demand, Massport will evaluate utilizing similar units on the garage structure; and
- Evaluating solar panels as the design of the garage structure progresses.

B-003-007 We ask that the FEIR update the status of the evaluations and identify measures and technologies chosen for the project.

B-003-008 We request that the FEIR list any diesel-powered equipment that will be used at the project, its function, expected times of use, location and emissions profile.

On page 6-9, the DEIR/EA indicates that, when modeling bus pool sound, each bus arriving and leaving the bus pool area "was assumed to idle for the maximum idling time allowed by law: five minutes after arriving and five minutes before departing. We appreciate that the model assumed a worst-case scenario and trust that there will be continued enforcement of MGL, Chapter 90, 16A and 310 CMR, 7.11 which state that, "No person shall cause, suffer, allow, or permit the unnecessary operation of the engine of a motor vehicle while said vehicle is stopped for a foreseeable period of time in excess of five minutes. 310 CMR 7.11 shall not apply to:

- Vehicles being serviced, provided that operation of the engine is essential to the proper repair thereof, or
- Vehicles engaged in the delivery or acceptance of goods, wares, or merchandise for which engine assisted power is necessary and substitute alternate means cannot be made available or,
- Vehicles engaged in an operation for which the engine power is necessary for an associated power need other than movement and substitute alternate power means cannot be made available provided that such operation does not cause or contribute to a condition of air pollution."

The construction of the SWSA Redevelopment Program will comply with the requirements of the Clean Construction Equipment Initiative aimed at reducing air emissions from diesel-powered construction equipment. In support of the state and federal MADEP Clean Construction Equipment Initiative and Clean Air Construction Initiative, respectively, Massport requires that construction contractors install emission control devices on certain equipment types (front-end loaders, backhoes, excavators cranes, and air compressors). Idle reduction and dust and odor control would also be addressed.

B-003-007

Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, presents the updated building energy modeling results of the Program with proposed building improvements and a description of these improvements.

B-003-008

Please refer to Chapter 6, *Construction*, for the projected construction-related air emissions. The construction air quality analysis assumes the types of construction vehicle/equipment, fuel types and their expected operating times as well as their projected vehicle-miles-traveled (VMT). Massport will require the contractor to retrofit diesel construction equipment with diesel oxidation catalyst and/or particulate filters (in accordance with the DEP Clean Air Construction Initiative) and utilize ultra-low diesel fuel for on-site construction vehicles/equipment.

Garage and Other Structure

The Garage Structure has been shifted away from the residential area along the eastern end of Maverick Street across from properties that are currently opposite an existing 18-foot high noise barrier. The NPC describes an increased setback from the airport edge and neighboring Gove Street residential community (an additional 60 feet from the western edge and an additional 18 feet from the southern edge for a total ranging from 470 to 620 feet away from the airport edge/community) and a shift (to the east) so that majority of the structure is shielded by the noise barrier reducing visual impacts, noise and light trespass to homes on Maverick Street. The new design is expected to shields the adjacent neighborhoods from existing airport roadways and operations/terminal areas.

Entry to and primary exit from the Garage Structure would be along the south side. Separate and dedicated rental car employee access and rental car customer vertical circulation ramps are stacked along the west side.

Eight additional structures are part of the project. It appears that there are:

- four QTAs buildings;
- a small administration building for the Bus and Limousine Pool (which is also adjacent to the long-term commercial parking overflow area);
- a small building in the Taxi Pool area; and
- two buildings in a service area between Porter Street and a QTA area opposite the Embassy Suites Hotel.

B-003-009 We ask that the Final Environmental Impact Report (FEIR) provide information about the functions and sizes of these buildings with sections renderings. The locations of any associated outdoor lighting or sound-generating equipment or activity should be identified, described and quantified.

Quick Turnaround Areas

QTAs are areas where an individual Rental Car Company (RAC) will fuel, clean (wash and vacuum) and service (topping of engine fluids, including gasoline, and light maintenance) a vehicle for the next renting customer. The NPC references the enclosure of noise-generating equipment and solid walls/fences designed to reduce noise impacts from such activities and intrusion from headlights into on the neighboring residential community.

B-003-010 We request that the FEIR provide information about:

- the number of vehicles that can be serviced inside of the four QTAs per hour;
- peak usage times and the number of vehicles that, based upon historical and projected use patterns, can be expected to be serviced during those times;
- the number of vehicles that can be serviced in a fully enclosed building at the same time;
- the types of maintenance activities that will be conducted outside of a fully enclosed building; and
- the location in which waiting vehicles will be parked while awaiting service and before they are moved to the parking structure after service.

B-003-011 Our concerns include the potential for idling while vehicles are in queue and the potential for repetitive noise events if, for example, oil is changed or vacuuming conducted while a vehicle is outside of the QTA building. We ask that the FEIR include a detailed description of QTA operations and methods for ensuring minimal impact.

B-003-009

Please refer to the response to Comment B-003-003.

B-003-010

Vehicle operations within each QTA area vary with individual corporate operations policies. This facility has been planned to accommodate current and future needs for the industry at Logan Airport. Chapter 3, *Surface Transportation*, assumes a certain level of peak activity for the service vehicle operations. The traffic analysis results demonstrate that the efficiency of the joint QTA and CSC operations would reduce the number of service vehicles to 26 vehicles per day for the future Build Conditions.

B-003-011

As described in Chapter 1, *Proposed SWSA Redevelopment Program*, the QTAs include cleaning and light maintenance activities such as car washing and vacuuming, and oil changing. As discussed in Chapter 4, *Air Quality and Noise*, the QTA facilities have been improved in order to reduce noise. Such improvements include the elimination of outdoor loudspeakers and car drying blowers, enclosed vacuum compressors, and the incorporation of six- to eight-foot high solid walls/fence designed to buffer noise to the adjacent community.

B-003-012 The DEIR/EA indicated in Appendix C: Architectural Design Criteria that providing controlled natural lighting and views in the office space is a goal. We were unaware of office uses and request that the FEIR describe all uses in the QTA buildings.
BED comments – Logan SWSA Redevelopment NPC, EEA #14137 - Page 6

There will be no loudspeaker announcements at the QTAs under the 2012 and 2017 Build Conditions.

Noise and Light Trespass

The following are some of the measures Massport identified in the DEIR/EA to minimize noise impacts on residential neighbors at various project facilities and areas:

- Three-foot high landscape berms between the entrance road and Harborwalk, in the buffer area between the residential property north of Maverick Street and the project site, and in the buffer area east of Geneva Street.
- Avoid horizontal, concrete spandrel treatment at upper levels of the garage structure, and at southwest corner beyond the existing Maverick Street noise wall.
- Construction of solid fences/walls bordering the project designed to reduce noise from activities at the QTA facilities (including car washing and vehicle movements).
- Diffuse noise transmission to neighborhood where required through the use of screening, solid surfaces and/or sound absorbing materials.
- Enclose customer vehicular ramps to protect rampways from snow and rain, and to mitigate noise transmission to neighborhood.
- Exterior noise mitigation treatments to reduce noise from vehicles on the ramps. These treatments, which may include external noise barriers and/or partial or entire enclosure of the ramps.

The NPC states that because the height of the Garage Structure has been reduced, single-event noise from the upper levels will be reduced by between approximately 7 to 17 decibels (depending on the distance of the homes to the Garage) because sound paths from the Garage Structure façade to homes range from about two to seven times farther (depending on the locations of the home and section of Garage Structure) than those under the DEIR/EA scenario. The paths and distances from the NPC proposal are considered comparable to noise levels from single-events experienced from the existing at-grade car rental facilities. Acoustical treatments to achieve a 10 dB reduction for the Garage Structure are no longer considered necessary. However, the NPC indicates that façade screening will continue to be incorporated into the final design of the Garage Structure to the southern and western façades that face the community.

We note that with the existing 18 foot noise barrier, residents of Maverick Street will be exposed to 29 feet of the garage structure and resultant noise and lighting impacts.

B-003-013 The previously proposed mitigation measures were thoughtful and, in many areas, still important for residents' comfort. We ask that Massport gauge their benefit by committing to no increase in sound level as a result of the project with a goal of lowering sound levels at all sensitive receptors and the Harborwalk.

B-003-014 Though Massport has indicated that there will be no loudspeakers associated with the QTAs, there is no reference to their use (or not) in any other area of the project. As the existing facility has generated regular resident complaints to the Boston Air Pollution Control Commission (APCC) about loudspeaker noise, it is essential that other methods of communication be used instead. We ask that a description be included in an FEIR summary of operations.

B-003-015 The DEIR/EA notes that light spill can be partially addressed through cut-off fixtures and we agree. However, lights on very tall poles are difficult to manage and cut-off fixtures do not provide a benefit. We ask that the proponent evaluate the use of LED lighting for all exterior locations. The quality of LED

B-003-012

The office uses of the Customer Service Center (CSC) are administrative spaces, or "back offices", for RAC and Massport personnel. These spaces include desk areas for managers, processing and clerical work as well as small break areas and conference rooms for internal meetings. These areas are proposed for the QTA buildings as well.

B-003-013

All proposed mitigation and/or beneficial measures previously presented in the 2008 Draft EIR/EA continue to be incorporated into the Program. Refer to Chapter 4, *Air Quality and Noise*, for an updated noise assessment and a description of the proposed noise attenuation measures.

B-003-014

Refer to the response to Comment B-003-004.

B-003-015

As discussed in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, high-efficient lighting, such as LED is proposed for the Garage Structure (exterior and interior) and surface parking lots as a key energy conservation measure to help achieve the minimum 20 percent performance criteria for energy efficiency for the overall Program. LED pole-mounted lighting on the roof of the Garage Structure and ceiling-mounted fixtures on the lower decks will be installed with cut-off fixtures to minimize light spill. Additionally, facade treatments of the Garage Structure have been designed to screen light spill from the community.

lighting has greatly improved and there are multiple options in the marketplace. LED lighting provides benefits in terms of useful life and in the ability to aim the light resulting in less overlighting and spillover.

We also suggest the following Web site for useful information about and examples of good exterior lighting: <http://www.britastro.org/dark-skies/>. Click "Lighting" and then "Good & bad lighting."

B-003-016 The FEIR should describe in detail the ways in which intrusion from headlights and other sources of illumination will be prevented from impacting residential neighbors.

Operations

B-003-017 It appears that 1,250 vehicles will be parked in at-grade areas adjacent to QTAs. Will these vehicles be moved to those spaces after being serviced at a QTA and then be the first vehicles provided to customers? If they are not to be moved to the parking structure, how will customers access the at-grade spaces? We request that

We ask that the FEIR include a description of the process when a customer obtains and returns a vehicle, when a vehicle is moved to receive maintenance, and how and under what circumstances vehicles are moved from the rooftop to fill in the lower levels in the garage.

B-003-018 The DEIR/EA referenced separate drop-off and pick-up circulation paths by providing drop-off at Level 2, and pick-up at Level 1 and the need to maintain flexibility of RAC Jockey access at ground level. We request that the FEIR explain the functioning of drop-off/pick and the ground level access issue.

Long Term Commercial Overflow Parking

The existing long term commercial overflow parking lot (420 spaces) located in the southwest corner of the SWSA (the former post office site) will be retained and relocated within the SWSA as surface parking (with a similar number of spaces) east of the proposed Bus and Limousine Pool (east of the Jeffries Point neighborhood) and will be further away from residences than where the spaces are currently situated. It is unclear where overflow parking will be located during construction. We ask that the FEIR identify any temporary area(s) and impacts that may be associated with the use.

B-003-019

Construction Vibration

B-003-020 Our understanding is that construction-related vibration is of concern of some neighborhood residents. A vibration monitoring program should be established that will indicate if vibration, soil displacement or dewatering impacts are resulting from demolition, remediation and construction activities. A pre-demolition survey of adjacent properties will be conducted so that steps can be taken to secure structures at risk and so that project-related damage can be readily distinguished from pre-existing conditions.

Thank you for the opportunity to comment. We look forward to the FEIR.

Sincerely,

Bryan Glascock
Director

Logan SWSA Redevelopment 12.09.doc.DBG:MTZ/mtz

B-003-016

As described in Chapters 1, *Proposed SWSA Redevelopment Program*, and Chapter 4, *Air Quality and Noise*, the Program proposes a series of site walls surrounding the RAC functions within the SWSA that are designed to block/screen noise and vehicle headlights and other light spill to the adjacent residential properties. Additionally, the Garage Structure will include facade treatments on the sides facing the community to reduce air emissions, noise, and light spill from the upper levels.

B-003-017

The rooftop level of the Garage Structure and the surface parking lots associated with the QTA areas are restricted to RAC employees only and customers will not have access to these areas. The QTA surface parking spaces are part of the general RAC operations (specifically, cleaning and light maintenance) and are primarily used for vehicle storage. The vehicles in these areas will either be returned vehicles waiting to be cleaned or will be clean and awaiting to be returned to the Garage Structure for customer pick-up. RAC employees will move the vehicles as required by customer demand. The level of activity will vary with time of day and day of the week dependent on the individual RAC tenant's operations plans.

B-003-018

The drop-off and pick-up referred to in the documents is for rental car customers only and is separate from jockey circulation. The drop-off and pick-up is for customers being dropped off at the ConRAC by the Unified Shuttle Bus. This activity occurs on Level 2 of the CSC on the airport side of the building. The pick-up of customers returning cars to the ConRAC by the Unified Shuttle Bus will occur at the ground level of the CSC, also along the airport side of the building.

Jockey access to the surface parking at the QTA areas refers to the

ability for RAC jockeys to move cars from the Garage Structure interior to the secured QTA surface parking areas for the vehicles to be cleaned and prepared for the next rental. This access is proposed through a series of ramps and access points throughout the Garage Structure. Figure 3.12 illustrates these site operations.

B-003-019

Please refer to Chapter 6, *Construction*, for the detailed project phasing. During construction, the existing long-term overflow commercial parking customers will be accommodated at other existing overflow lots elsewhere on-airport.

B-003-020

Please refer to Chapter 6, *Construction* for a discussion of anticipated pile-driving activities.



The Office of
SALVATORE LaMATTINA
Boston City Councilor - District One

14137

AC

RECEIVED

DEC 11 2009

MEPA

December 7, 2009

Secretary Ian A. Bowles
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Secretary Bowles,

Logan International Airport, considered one of the busiest airports in the country, is an important and influential component of our city and the New England region as a whole. It welcomes tourists, creating a first impression for many out-of-town travelers, and generates approximately \$7 billion a year to stimulate the New England economy. In 2008, over 26 million passengers passed through Logan's four terminals. Many of these airborne commuters and vacationers utilize rental car services to continue their journey on the road. Logan Airport is home to eight different rental car companies that operate shuttle buses to transport passengers to and from every terminal and the rental car facility. These services factor in to the high volume of traffic circulating in and around the busy airport. In 2008, the average daily traffic volume for Logan was 96,187 cars travelling an average of 163,882 miles in airport-related traffic. As a result, it is important that the rental car system be efficient and organized to make this service accessible and easy for all vehicle-bound travelers at our region's largest transportation hub.

The Consolidated Rental Car Facility (CONRAC) would bring all airport-related rental car operations to one parking garage on Maverick Street at the back entrance of the airport. Instead of busing travelers to and from the eight different rental car locations throughout East Boston and on Route 1, this simplified approach would bring them all to the CONRAC garage. It has been projected that 6,000 cars will be able to park at the CONRAC garage. While this new rental car parking addition would be an appreciated asset to airport operations and will ease some of Logan's overcrowding and traffic, it will also have huge environmental impacts on the surrounding East Boston community.

As the City Councilor for District 1 which largely includes East Boston, I believe there are some important community-related issues that need to be addressed before the project can be finalized. Some positive changes have already been made and I appreciate Massport's willingness to incorporate community ideas, but I am still concerned about

B-004-001

B-004-001

Please refer to Chapter 4, *Air Quality and Noise*, for an evaluation of enclosing or partially enclosing the Garage Structure as well as results from the updated air quality analysis, which demonstrates that the Program would result in an overall reduction of air emissions compared to existing and future no-build/no-action conditions. Also, Greenhouse Gas emissions related to mobile and stationary sources would be reduced, as demonstrated by Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*.

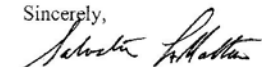
B-004-001

B-004-002

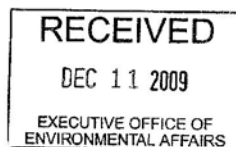
the increase in pollution that will be generated by this facility. I encourage Massport planners to consider making the facility closed on all four sides and including a filtration system that would not only drastically cut down on pollution coming from garage traffic, but could actually improve the current environmental conditions of the community. Other aspects of the project, including concerns over the proposed building height and issues regarding taxi idling at the current location, need to be resolved through further community dialogue.

As a public agency working for the needs of the people, Massport needs to consider all the environmental and quality of life impacts this project will have on the neighborhood. I support the addition of this streamlined approach to rental car operations but I urge project planners to consider changes, such as a filtration system, that could lessen these impacts and benefit our neighbors. Thank you for your consideration.

Sincerely,



Salvatore LaMattina
Boston City Councilor, District 1



B-004-002

As presented in the 2009 NPC and re-presented herein, Massport has made substantial changes, including removal of the commercial parking component, which resulted in a reduction in height and size of the Garage Structure as well as shifting it further away from the community to the greatest extent feasible. Refer to Chapter 1, *Proposed SWSA Redevelopment Program*, for an updated description of the Program.

In accordance with Massachusetts General Law, the anti-idling law (MGL, Chapter 111, Sections 142A - 142M), Massport will post 'no idling' signs within the SWSA. The Massport Ground Transportation Unit actively enforces the 5-minute idling law and issues citations to violators.

December 14, 2009

Secretary Ian A. Bowles
Executive Office of Energy and Environmental Affairs
100 Cambridge Street
Boston, MA 02114

Re: Notice of Project Change: Southwest Service Area Redevelopment at Logan
EEA No. 14137

Dear Secretary Bowles:

On behalf of the community of Chelsea, we offer the following comments in regard to Massport's CONRAC facility that is being proposed in neighboring East Boston.

The CONRAC facility proposes to locate 6,000 cars in close proximity to a residential neighborhood of East Boston. As you are well aware, East Boston's population falls within the state's definition of an environmental justice community as defined in Massachusetts' Environmental Justice Policy. As such, this population is at an increased risk of pollution-related illnesses. Our neighboring Chelsea is also an EJ community and one that has already been affected by pollution and compromised public health.

Professors Eric Krieg and Daniel Faber, in their study "Unequal Exposure to Ecological Hazards," have characterized Chelsea and East Boston as the third and fifth most environmentally overburdened communities in Massachusetts. According to the US Environmental Protection Agency (EPA), Chelsea's overall level of diesel exhaust exceeds the US average by five times.¹ Furthermore, Chelsea's level of diesel exhaust exceeds the EPA's reference concentration by 20%.² According to the Clean Air Task Force (CATF), Chelsea is in the highest category for expected lifetime cancer cases from diesel pollution. More than 501 people in Chelsea are likely to develop cancer from diesel pollution in comparison to Nantucket which could expect to see anywhere from zero to 30 cancer cases.³ Other illnesses which result from high concentrations of diesel pollution include premature deaths, heart attacks, and chronic bronchitis and asthma attacks.

As such, Chelsea has the highest rate of strokes, heart disease and major cardiovascular disease when compared to Boston, Medford, Everett, Malden, Revere, Somerville, Winthrop and Cambridge. These rates are statistically significantly higher than all cities and towns within Route 128 and statistically significantly higher than the state of Massachusetts as a whole.⁴ Chelsea's rate of hospitalizations for all respiratory illnesses for children ages 0 -14 is 54% higher than the state of Massachusetts; and likewise is 53% higher for seniors ages 65 and older.⁵

¹ www.epa.gov/ne/ecc/airtox/diesel.html

² *Id.*

³ Clean Air Task Force database used *The Lingering Threat Report* (2005)

⁴ MassCHIP, Massachusetts Department of Public Health, *Rate of Hospitalizations for Circulatory Conditions, 1990 - 2003* prepared by Professor Neenah Estrella-Luna

⁵ MassCHIP, Massachusetts Department of Public Health, *Rate of Hospitalizations for Respiratory Illnesses, 1990 - 2003* prepared by Professor Neenah Estrella-Luna

B-005-001

Given the abundance of air pollution, especially particulate matter, we feel strongly that Massport must comply with the requirements of the Transportation Bill with regard to particulate matter pollution. This would require all transportation projects within close proximity to residential areas to undergo an ultra fine particulate matter study. It is imperative that Massport conduct a thorough study to determine how this project might impact the adjacent community and the neighboring environmental justice populations. Furthermore, the findings of this study should assist Massport in designing and implementing a proper and thorough mitigation plan.

B-005-002

In addition, we feel it is imperative that Massport conduct a cost benefit analysis to determine the feasibility of enclosing the CONRAC facility to further reduce public health and environmental impacts on the nearby community.

We respectfully request that Massport be required to provide more information on the proposed CONRAC facility. Thank you for your time and attention to these comments.

Very Truly Yours,

Brian Hatleberg
President, Chelsea City Council

Roseann T. Bongiovanni
Councilor-at-Large

B-005-001

Please refer to Chapter 4, *Air Quality and Noise*, for a discussion on ultra-fine particulate matter as it relates to the Program.

B-005-001

Please refer to Chapter 4, *Air Quality and Noise*, for a discussion on ultra-fine particulate matter as it relates to the Program.

B-005-002

Please refer to Chapter 4, *Air Quality and Noise*, for an evaluation of an enclosed Garage Structure.

December 11, 2009

Via email to: anne.canaday@state.ma.us

Ms. Anne Canaday
Environmental Analyst
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: Notice of Project Change
Southwest Service Area Redevelopment Program
Logan Airport, Boston
EEA #14137

Dear Ms. Canaday:

I am submitting these comments on behalf of Airport Impact Relief, Inc. ("AIR, Inc.") in regard to the Notice of Project Change ("NPC") submitted by Massport for the above-referenced Southwest Service Area ("SWSA") Redevelopment Program.

We recognize that the changes in the design and function of the consolidated rental car facility ("ConRAC"), as described in the NPA, are proposed to reduce some of the adverse effects of this project on the neighborhood. But one still cannot escape the fact that the proposed facility lies in very close proximity to a densely-populated residential neighborhood and will generate more than seven-times the amount of new parking spaces which triggers the need for a mandatory E.I.R. under 301 CMR 11.03(6)(a)(7). Two sides of the actual development area physically abut residences and residential uses on Maverick Street (to the south) and the Geneva Street/Wellington Street corridor (to the west).

Average weekday vehicle trips per day (car pool, taxi pool, bus and limousine pools, and overflow commercial parking) generated by this facility in the 2018 build condition is over

Ms. Anne Canaday
December 11, 2009
Page 2

28,000 vehicles¹. Accordingly, members of AIR, Inc. continue to have serious concerns about the location of the revised project and wish to make suggestions to expand the scope of the Final EIR.

After reviewing the NPC, we have the following issues and concerns about the proposed project:

O-006-001 **1. Alternative sites.** The revised project approximately eliminates 3,000 commercial parking spaces and reduces the size of the garage structure. Accordingly, the certificate should require Massport to evaluate the feasibility of relocation of the facilities, or portions thereof, at other Massport locations including the Central Garage, the Robie property, and/or the North Service Area; the financial and technical feasibility of construction of some, or all, of the proposed garage below grade, including what cost differences are involved with an above-grade and below-grade construction. The Final EIR should describe in detail what alternative traffic circulation schemes were considered. See my comments on the Draft EIR dated September 26, 2008.

O-006-002 **2. Air quality and public health impacts.** The proposed scope for air quality analysis continues to be too narrowly-focused on the traditional conformity analysis and evaluation of the ambient air quality standards. But as many of the comments on the Draft EIR noted, no attention had been given to any analysis of the emissions of fine and ultra-fine particulate matter and their potential effects on public health. The elimination of the commercial parking spaces does not entirely eliminate the issues surrounding "cold start" emissions; and irrespective of that particular issue, the presence and circulation of thousands of cars, vans, and buses in the close vicinity of residences is not being properly evaluated. See my comments on the Draft EIR dated September 26, 2008.

O-006-003 For a number of years residents and with public health agencies have been calling attention to the need for a greater understanding of the health impacts of Logan Airport and its ground transportation facilities. For example, DPH study, Massport study. These efforts are consistent. The Legislature in the transportation reform legislation enacted in June, in fact, recognized this need. It included provisions in Section 33 of Chapter 25 of the Acts of 2009 for the use of health impact assessments for transportation projects; and a provision in Section 154 for the Department of Public Health to do a baseline evaluation of the health impacts of fine and ultrafine particulate matter on near-source populations within one mile of large airports such as Logan. This Final EIR is an opportunity for those types of inquiries to begin directly by Massport. Since the EIR process is one of public disclosure, the scope should at least require

¹ See NPC Table 1 - 5, SWSA Trip Comparison.

O-006-001

Chapter 1, *Proposed SWSA Redevelopment Program*, re-evaluates on-airport site alternatives in light of the reduced program, as presented in the 2009 NPC and herein. The Garage Structure has been reduced in both height and size, and has been relocated farther away from the nearby residential community. However, each of the other program elements—apart from additional commercial parking within the Garage Structure—has been retained in the revised Program. In addition, the Bus and Limousine Pools, which were to be relocated to the North Service Area under the Draft EIR/EA Program, have been retained within the SWSA as part of the revised Program. Even without considering landscaping and pervious areas, some of which would be required to satisfy applicable environmental standards and community concerns under any circumstances, the Program presently requires more than 41 acres of pervious surfaces to efficiently operate, serve the airport, and serve the rental car companies and customers. At least some of the additional 6.1 acres of landscaped and pervious areas proposed as part of the Program would remain necessary to meet environmental and community concerns no matter where on-airport the revised Program was to be located. Therefore, unless the Garage Structure was revised to be taller and far more massive, over 45 acres of land would be necessary to accommodate the Program no matter where on-airport the revised Program was to be located. As shown on Table 1-2, *Rental Car and Parking Planning Alternatives*, the SWSA remains the only on-airport parcel of sufficient size. The other possible on-airport site locations are all too small.

In many cases, those other airport parcels are already being used for other essential airport functions which cannot be displaced, or are under planning consideration for such uses in the future, and thus are not reasonably available to serve the revised Program.

Even more importantly than SWSA's appropriate size and availability for

Ms. Anne Canaday
December 11, 2009
Page 3

O-006-003 Massport to provide information about relevant studies and references, now completed or underway, which address airport emissions and public health issues. In a related matter, there has been little public information about Massport's own air quality monitoring study, for which the Phase I report has still not been published. That work should be discussed in the Final EIR.

O-006-004 Members of AIR, Inc. were advised by representatives of Massport in a November community meeting that during design of the structure, Massport will further investigate various options for constructing at least the two walls facing the community in a manner that will reduce the flow of emissions from inside the facility to the neighborhood. The scope on the NPC should specifically require that alternative design concepts be evaluated, and that a range of other feasible options should be explored that would contain and vent air emissions away from the neighborhoods and mitigate the air quality and public health impacts of the proposed facility. See my comments on the Draft EIR dated September 26, 2008. The cost estimated for these alternative designs should be included so that the public understands what factors Massport is taking into consideration in its proposed design of the facility.

O-006-005 **3. Traffic and parking issues.** We are pleased to note that Massport proposes pedestrian improvements at the Frankfort Street/Lovell Street intersection of the North Service Area (NPC, p. 1-12) in conjunction with the temporary relocation of the bus and limo pool. The scope should ensure that these improvements are properly identified so that the public can understand what will be done and when, the source of funding, and the relationship of these improvements to other planning efforts in this area, including the North Service Area Airport Edge Buffer.

O-006-006 **4. Airport Edge Buffer Program.** As previously stated in our September 26, 2008 comments, AIR, Inc. intends to participate fully in the community planning process for the SWSA Airport Buffer Area (Phase 2), in which a number of important design issues will need to be resolved. The Final EIR should fully identify what initial design issues are being, or will be, addressed in that process. Our previous comment letter highlights some of these issues including the extent and location of the buffer, impacts of roadways, connection to Memorial Stadium Park, and buffer walls.

Thank you for your attention to these matters, and we are hopeful that the certificate on the NPC will be responsive to these comments.

Sincerely yours,

Peter L. Koff

cc: Members of Airport Impact Relief, Inc.

use, however, is the SWSA's excellent proximity to the key airport roadways which provide efficient access not only to the airport terminals but also to the regional highway system. The SWSA's uniquely superior access characteristics will allow the proposed Unified Bus System to improve air quality while providing convenient access to and from the MBTA Airport Station, the airport terminals, and the consolidated rental car operations. Any other airport location considered for the revised Program would make the Unified Bus System less efficient, and would likewise unnecessarily drive up Vehicle Miles Travelled by airport users.

O-006-002

Chapter 4, *Air Quality and Noise*, contains information on fine and ultra-fine particles, cold engine starts, as well as the results of the updated air quality analyses.

O-006-003

Chapter 4, *Air Quality and Noise*, contains a summary discussion of relevant studies pertaining to air quality studies at Massport.

O-006-004

Please refer to Chapter 4, *Air Quality and Noise*, for consideration of an enclosed Garage Structure.

O-006-005

Chapter 3, *Surface Transportation*, presents the improvements proposed at the Frankfort Street and Lovell Street intersection. As detailed in Chapter 7, *Beneficial Measures/Draft Section 61 Findings*, Massport is committed to providing these improvements by the start of construction. The pedestrian crossing provided as part of this traffic signal system will allow safe and controlled pedestrian and bicycle connectivity between Bremen Street Park and the proposed NSA Airport Edge Buffer, located at the corner of Neptune Road and Vienna Street.

O-006-006

Please refer to Chapter 1, *Proposed SWSA Redevelopment Program*, for a detailed description of the proposed site landscaping for the Program. Massport is committed to continuing to work with the community to ensure that the proposed designs meet the expectations of the surrounding neighborhood.

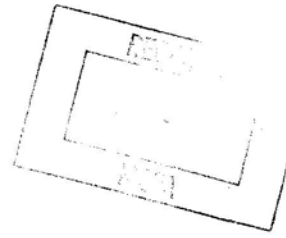
GOVE STREET CITIZENS ASSOCIATION
123 Cottage Street
East Boston, MA 02128

AC

Ida LaMattina
President

November 19, 2009

Secretary Ian A. Bowles
Executive Office of Energy and Environmental Affairs
ATTN: MEPA Office, Anne Canady
Ref: EEA No. 14137
100 Cambridge Street, Suite 900
Boston, MA 02114



Dear Secretary Bowles:

O-007-001

The Gove Street Citizens Association supports the Notice of Project Change - EEA No. 14137 - concerning the Southwest Service Area Redevelopment Program at Logan Airport, submitted by Massport. We agree that the proposed project changes represent substantial neighborhood environmental improvements stemming from the reduction in overall garage structure size by about one-half with a consequential reduction of structured parking spaces by nearly sixty percent due to the elimination of commercial parking. We also fully support the proposed increased garage structure setback from the airport/community boundary.

We strongly recommend that Massport optimize the environmental community benefits of the proposed downsized Southwest Service Area Redevelopment program by committing to an enhanced neighborhood/airport edge landscaping buffer program to include pedestrian and bicycle pathways that would connect the harborwalk area with the East Boston Greenway and Bremen Street Park facilities.

Sincerely,

Ida LaMattina
President

O-007-001

Thank you for your comment.

AC

Fax cover sheet

From: Karen M. Maddalena
JEFFRIES POINT NEIGHBORHOOD ASSOCIATION

I AM FAXING YOU A REVISED LETTER TO REPLACE THE ORIGINAL ONE
SENT ABOUT A HALF HOUR AGO.

THANK YOU
KAREN MADDALENA

PAGE 01

KMAD

02/21/2006 23:00 16175670512

Jeffries Point Neighborhood Association
Karen M. Maddalena-Co chair
4 Larsson Street, East Boston, MA 02128

REVISED LETTER

December 12, 2009

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs
ATTN: MEPA Office, Ann Canady
Ref. EEA No. 14137
100 Cambridge Street, Suite 900
Boston, MA 02114
T-617-428-2800
F 617-626-1181

Dear Secretary Bowles and Director Mc Devitt

This letter is in reference to the proposed consolidated rental car garage in the southwest service area at Logan International airport. We are the neighborhood group that represents the Jeffries Point area in East Boston where the SWSA is.

The Jeffries Point Neighborhood Association is opposed to the ConRac garage and as proposed and described in the Notice of Project Change document. Although the M.P.A. has reduced the number of cars and removed a floor from the original design there remains serious issues with the garage from a neighborhood perspective.

O-008-001 The building is still too close to our thickly settled residential area. The houses are three and four family units with no front yards and very close to each other. Although the N.P.C. shows it moved back a little our suggestion is to find other places on the airport land to site it in whole or in part. One possible site is the northwest area of the airport.

O-008-002 Although the garage is smaller there will not be less pollution. The trips of all the vehicles in the SWSA with the garage the taxi pool the buses and limo pool the flight kitchen the Maverick Street gate and the long term commercial overflow parking area will increase. Our figures indicate the number of trips will be 28,700 trips per day.

O-008-003 Another issue for us is that the M.P.A. has not committed to measuring the ultra fine particulate matter in the final E.I.R. We worked hard this summer to make sure that his measuring of ultra fine particulates was included in the transportation reform act. This requirement is indeed on the books and the M.E.P.A. unit must insist that the Port Authority measures the ultra fine particulates and the health effects of them on the close in community. Please read the enclosed article about ultra fine particle emissions at the Santa Monica airport.

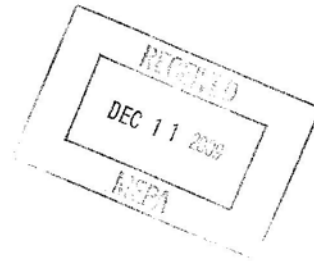
For the residents of Jeffries Point and East Boston this is a very serious issue. A health study looking at the health effects was almost finished last year when it was abruptly stopped because the funds were cut by the state. Initial results from the study showed that the pollution from the airport was causing serious health problems including lung cancer, asthma and other respiratory illnesses. We urge the MEPA unit to have the M.P.A. fund the conclusion of the study information about the health impacts of airport operations.

O-008-004 Other suggestions, besides those already given by us, would be to put walls on the garage and have an exhaust system that filters the pollution. If the garage is put on the SWSA site. Also, the garage could have some floors under the ground to lessen the height. We are very afraid this concentrated area of pollution right in the middle of our neighborhood!

So we ask that you include all of our concerns, suggestions and fears in your scope for the final E.I.R. We hope and pray that the State Environmental Office take our situation to heart and address the environmental impact issues we experience from the airport operations.

Sincerely,

Karen M. Maddalena



O-008-001

Chapter 1, *Proposed SWSA Redevelopment Program*, re-evaluates on-airport site alternatives in light of the reduced program, as presented in the 2009 NPC and herein. The Garage Structure has been reduced in both height and size, and has been relocated farther away from the nearby residential community. However, each of the other program elements—apart from additional commercial parking within the Garage Structure—has been retained in the revised Program. In addition, the Bus and Limousine Pools, which were to be relocated to the North Service Area under the Draft EIR/EA Program, have been retained within the SWSA as part of the revised Program. Even without considering landscaping and pervious areas, some of which would be required to satisfy applicable environmental standards and community concerns under any circumstances, the Program presently requires more than 41 acres of pervious surfaces to efficiently operate, serve the airport, and serve the rental car companies and customers. At least some of the additional 7.7 acres of landscaped and pervious areas under the revised Program would remain necessary to meet environmental and community concerns no matter where on-airport the revised Program was to be located. Therefore, unless the Garage Structure was revised to be taller and far more massive, over 45 acres of land would be necessary to accommodate the Program no matter where on-airport the revised Program was to be located. As shown on Table 1-2, *Rental Car and Parking Planning Alternatives*, the SWSA remains the only on-airport parcel of sufficient size. The other possible on-airport site locations are all too small.

In many cases, those other airport parcels are already being used for other essential airport functions which cannot be displaced, or are under planning consideration for such uses in the future, and thus are not reasonably available to serve the revised Program.

Even more importantly than SWSA's appropriate size and availability for use, however, is the SWSA's excellent proximity to the key airport roadways which provide efficient access not only to the airport terminals

1.

Study finds higher air pollution near Santa Monica Airport

By Dan Weikel

November 19, 2009

UCLA researchers find ultrafine particle emissions are 10 times higher than normal 300 feet from the runway -- a range that includes many homes. The study calls for larger buffers at urban airports

UCLA scientists have found that people who live and work near Santa Monica Airport are exposed to high levels of air pollution-- a significant health concern that has been largely associated with major commercial airports such as LAX.

The study, released Wednesday, shows that ultrafine particle emissions were 10 times higher than normal about 300 feet downwind of the runway's east end, where takeoffs generally start. The levels were 2.5 times higher than normal at a distance of about 2,000 feet.

A tiny fraction of the width of a human hair, ultrafine particles can travel deep into the lungs, penetrate tissue and even travel to the brain. Studies show that elevated exposure to the particles presents a health risk for children, older adults, and people with respiratory and cardiovascular diseases.

Although the research focused on Santa Monica, the study may have broader implications for regional and municipal airports that serve private planes and corporate jets. Many such airfields in Southern California are in densely populated areas.

"Our research shows the potential impacts of smaller airports on residential areas and that we ought to have more of a buffer around airports," said UCLA professor Suzanne E. Paulson, an atmospheric chemist who worked on the study. "This is not just happening at Santa Monica."

The Santa Monica Airport sits on a plateau surrounded by businesses and homes, some less than 300 feet from the runway. For years, nearby residents and business owners have complained about aircraft emissions and the growing use of corporate jets.

"It's just horrible," said Virginia Ernst, who lives about 300 feet from the runway's east end. "They line the planes up and the fumes just invade your home. Sometimes you have to leave because it is so bad."

The university's Department of Atmospheric and Oceanic Sciences conducted the study

2/3

but also to the regional highway system. The SWSA's uniquely superior access characteristics will allow the proposed Unified Bus System to improve air quality while providing convenient access to and from the MBTA Airport Station, the airport terminals, and the consolidated rental car operations. Any other airport location considered for the revised Program would make the Unified Bus System less efficient, and would likewise unnecessarily drive up Vehicle Miles Travelled by airport users.

O-008-002

Chapter 3, *Surface Transportation*, provides an updated traffic analysis, including a comparison of 2013 and 2018 No-Build and Build Conditions trip generation characteristics of the SWSA. These revised traffic projections indicate that the 2018 Build Condition trip generation for the SWSA would be slightly lower (2 percent) than 2018 No-Build Condition trip generation. The reduction in trips results from the smaller and more efficient Unified Bus System and reduced long-term overflow commercial parking within the SWSA.

O-008-003

Please refer to Chapter 4, *Air Quality and Noise*, for a discussion on ultra-fine particulate matter as it relates to the Program.

O-008-004

Please refer to Chapter 4, *Air Quality and Noise*, for consideration of an enclosed Garage Structure. Chapter 1, *Proposed SWSA Redevelopment Program*, discusses the feasibility of below-grade parking levels.

2-13
-- one of only a handful to explore airborne pollutants near general aviation airports. The results were disclosed Wednesday in the journal Environmental Science and Technology, published by the American Chemical Society.

UCLA's findings are consistent with a study yet to be published by the South Coast Air Quality Management District, which found that levels of ultrafine particles were significantly elevated near the Santa Monica runway during aircraft operations.

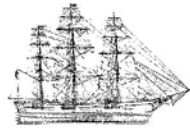
The UCLA research <<http://pubs.acs.org/doi/abs/10.1021/es900975f?prevSearch=santa%2Bmonica%2Bairport&searchHistoryKey=>> suggests that government officials should pay closer attention to airport-related emissions that could cause health problems. Many smaller airports in urban areas, the study noted, have insufficient buffer zones to reduce noise and prevent emissions from reaching neighborhoods.

Officials for the Federal Aviation Administration said that air traffic control at Santa Monica has taken several steps to limit emissions from taxiing and departing aircraft. They include positioning planes so their exhaust is directed away from neighborhoods and instructing pilots not to start their engines until five or 10 minutes before they are cleared for takeoff.

But Martin Rubin, a community activist involved in airport issues, disputes the effectiveness of those procedures. Aircraft are still idling for up to 30 minutes, back to back, he said, and wind can send emissions into neighborhoods despite a plane's position on the runway.

dan.weikel@latimes.com <<mailto:dan.weikel@latimes.com>>

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<<http://www.latimes.com/>>



EBCDC, INC.

RECEIVED

DEC 11 2009

MEPA

December 9, 2009

Secretary Ian A. Bowles
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office, Anne Canady
100 Cambridge Street, Suite 900
Boston, MA 02114

Subject: EEA No. 143137 – Logan SWSA Notice of Project Change (NPC)

Dear Secretary Bowles:

O-009-001

The East Boston Community Development Corporation supports the Massachusetts Port Authority's Southwest Service Area (SWSA) Redevelopment Program NPC and referenced as EEA No. 14137. This project addresses a long standing community objective to relocate rental car facilities out of congested local streets onto the airport in order to provide traffic congestion and air pollution relief by replacing the existing diesel powered rental buses with a smaller fleet of CNG powered vehicles. The SWSA NPC would further improve the environmental benefits associated with the project by eliminating the original commercial parking garage component, which reduces the overall project size and increases its distance from the nearest city street.

The East Boston CDC favors the community improvements associated with the NWSA project, specifically the proposed edge buffer concept, landscaping commitment, and pedestrian and bicycle connections all of which would enhance the quality-of-life of the neighborhoods abutting the Southwest Service Area of the airport. The East Boston CDC looks forward to constructively participating with Massport in the NWSA development program to optimize its potential benefits for East Boston.

Sincerely,

Albert F Caldarelli
President

72 Marginal Street, East Boston, Mass. 02128-2135 • (617) 569-5590

AC

O-009-001

Thank you for your comment.

Neighbors United For A Better East Boston, Inc.

Secretary Ian A. Bowles
100 Cambridge Street
Boston, MA 02114

Re: Notice of Project Change, Southwest Service Area Redevelopment Program at Logan
EEA No. 14137

Dear Secretary Bowles:

Neighbors United for a Better East Boston (NUBE) is a non-profit organization working with low income residents and persons of color in East Boston. We organize residents on key issues to lower income populations such as improving schools, relations between community and police, and immigration policy. We were also a recipient of the Civic Engagement Initiative (CEI) grant where we increased voter turnout in the recent municipal election by an average of 44% in our target low income and minority precincts.

O-010-001

We are writing to you regarding the CONRAC project because we believe that the environmental justice process is not being followed for this project which will have a large impact on a low income community. East Boston has at least 40% to 50% Latino residents and most residents of all races are low income. However, Massport has done very little outreach to the Latino community and we have found no materials made available in Spanish, nor any community meetings translated or held in Spanish. A few meetings have been held at organizations with predominately white members, but Massport has effectively ignored the Latinos who will be affected by the project and do not speak English.

O-010-002

The Latino community in East Boston needs to understand the scope of the project and the possible negative health effects that the increased concentration of automobile pollution will bring to our community. We have seen no studies of pollution increase or decrease, and of course nothing in Spanish. As an environmental protection agency, we would request that you compel Massport to fulfill their obligations in this environmental justice district to communicate with the Latino community about this project. In particular, we would like Massport to conduct a health study and an ultra-fine particulate matter health study as is required by the recent legislation in the transportation bill.

O-010-003

We also would like to ask you to require that Massport enclose the CONRAC facility on all four sides and filter the air filled with car exhaust so that residents living around the garage do not have to breathe in the car exhaust from thousands of cars which will have a new location concentrated in one area of Jeffries Point.

Most of our Latino members have no knowledge of this project and even many of our board members only recently found out about the project. As we investigated, we realized it has been in the process for years. It should be the responsibility of Massport to reach out to the Latino community and make them aware of a project of this scope by soliciting their views and

O-010-001

Please refer to Chapter 8, *Federal Requirements*, for an environmental justice assessment, in accordance with the National Environmental Policy Act (NEPA). Based on the results of the traffic/transportation, air quality, noise, and other impact analyses, the Program would not have disproportionate and/or adverse significant impacts on low-income or minority populations or children.

O-010-002

Please refer to Chapter 4, *Air Quality and Noise*, for a discussion on ultra-fine particulate matter as it relates to the Program.

O-010-003

Please refer to Chapter 4, *Air Quality and Noise*, for consideration of an enclosed Garage Structure.

explaining the project through methods and mediums that are commonly used by Latinos. We already have many health issues that come from airport pollution and if there is any chance to reduce the amount of pollution by enclosing the facility, then we should do it. At the very least, we should be able to ask Massport to study the effects of the pollution and communicate the results in Spanish.

Sincerely,

Gloribell Mota
Michele Rudy
Ileana Cintron
Kim Lamperuer
Calvin Peliciano

NUBE Board Members



December 11, 2009

62 Summer Street
Boston, MA 02110-1008
(617) 542-7696
Fax: (617) 542-0383
www.bostonnatural.org

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O-011-003

Secretary Ian Bowles
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston MA 02114

Dear Secretary Bowles:

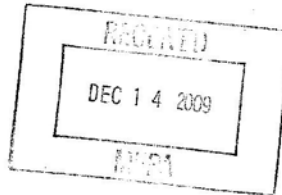
On behalf of the Friends of East Boston Greenway and Boston Natural Areas Network we would like to submit the following comments on EEA No. 14137: Notice of Project Change, Southwest Service Area Redevelopment Program at Boston-Logan International Airport.

The Friends of the East Boston Greenway (FEBG) is a 15-year-old volunteer group that meets monthly to envision, plan, advocate, monitor and support the creation and maintenance of the East Boston Greenway. Boston Natural Areas Network is a 32-year-old non-profit organization that works with local citizens to preserve, expand and improve urban open space and provides staff support to FEBG.

The East Boston Greenway path extends for .5 miles in the Jeffries Point neighborhood and an additional .5 miles through Bremen Street Park which is operated by Massport. This well-loved Greenway is an open space used in all seasons by residents and is in close proximity to the airport and the proposed changes to the Southwest Service Area. As such, neighborhood access to parks, outdoor recreation and air quality are of great concern to our group and park users.

We have concerns about the current design of the pedestrian and bicycle connection from Maverick Street to Memorial Stadium, and also to Bremen Street Park and the East Boston Greenway. This path serves as the major connection for Jeffries Point neighborhood residents to access these parks. The width of this path must be designed to safely accommodate both pedestrians and cyclists. Furthermore, to cross from the path at Porter Street near the Embassy Suites hotel into Memorial Stadium presents residents with multiple conflicts, as more taxis and cars will be using Porter Street due to the new proposed taxi pool location. A solution must be designed to ensure the safety of pedestrians and cyclists as they make their way across this newly created intersection with accompanying increased traffic.

Secondly, we strongly feel that an enclosure and filtration system be installed to clean the air at the CONRAC facility before entering the surrounding atmosphere. The impact of the exhaust of 6000 cars concentrated in one location so near a densely populated residential area cannot be underestimated. Every care and precaution must be taken by Massport to



O-011-001

As shown on Figure 3.12 of Chapter 3, *Surface Transportation*, taxis would egress the taxi pool to Porter Street via a turnaround located to the north of the Porter Street and Service Road intersection. This taxi egress pattern is not in conflict with the pedestrian and bicycle path between the SWSA Edge Buffer and Memorial Park. The width of the proposed path is 12 feet, which is adequate to accommodate pedestrians and bicyclists.

O-011-002

The taxi pool egress circulation would not be in conflict with Porter Street pedestrian crossing in question. Specifically, when the Dollar rental car operations move to the ConRAC facility, the number of vehicular conflicts at this Porter Street pedestrian crossing would be lower under the Build Conditions when compared to the No-Build/No-Action Conditions, indicating that the Project will have a beneficial impact on pedestrian safety at this location.

O-011-003

Please refer to Chapter 4, *Air Quality and Noise*, for consideration of an enclosed Garage Structure.

O-011-004

minimize the impacts of air pollution on East Boston's already compromised air quality, due in great part to Logan Airport operations and increased vehicular traffic to and from the airport.

Lastly, both the community and we strongly feel that the CONRAC facility must be included in the state-mandated ultra-fine particulate matter study of transportation nodes within a certain distance from residential areas that was included in the recent Transportation Bill. Massport must include all of Logan Airport in its study, including the CONRAC facility. At recent community meetings, Massport has stated CONRAC will not be included. This is unacceptable and in violation of this law enacted to protect the health of residents. As a protector of state environmental health, we urge EOEAA to enforce the inclusion of the CONRAC facility in the ultra-fine particulate matter study that must be conducted by Massport.

We are supportive of the purpose behind the CONRAC facility in combining & thereby reducing redundant rental car & shuttle bus operations into one location. However we feel that consideration must be given to the safety and health of East Boston residents. Safely accommodating pedestrians and cyclists on proposed paths and intersection near Porter Street, enclosure and filtration of the garage, and including the garage in the ultra-fine particulate study will improve this project and its impact on the health and safety of East Boston residents.

Thank you for considering our comments as you review this project change.

Sincerely,



Valerie Burns
President, Boston Natural Areas Network
On behalf of Friends of East Boston Greenway

BOSTON NATURAL AREAS NETWORK, INC.

62 Summer Street, Boston, MA 02110-1008 (617) 542-7696 Fax: (617) 542-0383
www.bostonnatural.org



O-011-004

Please refer to Chapter 4, *Air Quality and Noise*, for a discussion on ultra-fine particulate matter as it relates to the Program.

**Eagle Hill Civic Association
106 White Street
East Boston, MA 02128**

AC

Fax: 617-626-1181

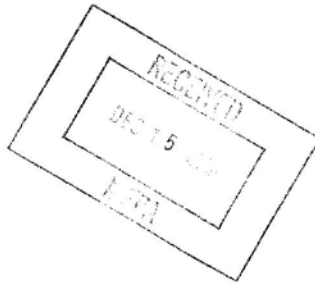
To: Secretary of State Ian A. Bowles

**FROM: Debra Cave
Eagle Hill Civic Association**

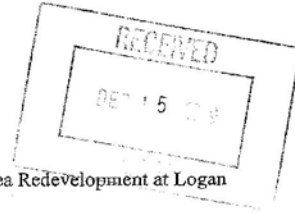
RE: Southwest Service Area Redevelopment

Date: December 15, 2009

Pages: 2



Secretary of State Ian A. Bowles
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02114



Re: Notice of Project Change: Southwest Service Area Redevelopment at Logan
EEA No. 14137

Dear Secretary Bowles:

O-012-001

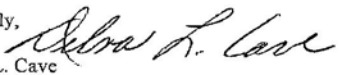
The Eagle Hill Civic Association of East Boston would like to communicate the support of more than 100 of our members for the complete enclosure of the CONRAC facility and installation of a filtration system to clean the car exhaust as it exits the building.

All of our members live in close proximity to the airport and have to deal every day with the pollution that comes from planes and cars at the airport. The opportunity to completely eliminate pollution from over 6,000 cars in our neighborhood is a remarkable opportunity that must be seriously considered by your agency and Massport. Our children in East Boston are much more likely to develop asthma than their peers in other neighborhoods of Boston. Furthermore, studies show Eagle Hill residents have a higher incidence of several other diseases compared to residents in surrounding areas that can be the result of poor air quality. Harmful pollutants from car exhaust can be a cause of some of the diseases; which is why we are hopeful about the chance to significantly reduce the risk of more children becoming sick.

We do not believe that any expense should be spared to make our community a healthier place to live and we would be hard pressed to understand any argument from Massport stating that the extra cost to enclose the building and filter the air would be so significant as to make it not worth the price for our children's health. As the environmental agency, we urge you to use your power to mandate that Massport make the aforementioned changes. If they refuse, we encourage you to ask them to prove their claims by conducting the ultra-fine particulate matter study of the CONRAC project that is required by the provision implemented in the new transportation bill passed by the legislature earlier this year. We believe that a study conducted by an impartial third party would show that reducing the particulate matter (and other pollutants from cars) emitted into the neighborhood would have dramatic effects on the health of the residents.

If Massport is already paying to construct the building, the extra cost to put up walls and an air filter would surely be insignificant compared to the overall cost and the profound benefit to the community. I hope that you will consider this in evaluating the proposed changes to this project.

Sincerely,


Debra L. Cave
President, Eagle Hill Civic Association

O-012-001

Please refer to Chapter 4, *Air Quality and Noise*, for consideration of an enclosed Garage Structure.

294 Marginal Street
East Boston, MA 02128
17 November 2009

Secretary Ian A. Bowles
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Secretary Bowles:

Re: Notice of Project Change
Southwest Service Area Redevelopment Program at Logan International Airport
EEA Secretary No. 14137

As a concerned resident of the Jeffries Point neighborhood I have attended public meetings on the proposed changes, and reviewed the above document. I have provided comments below.

Improved Aspects of Project Change

- The reduction of the proposed project by a significant amount is welcomed.
- The specific reduction in the number of stories of the garage in particular is a positive change.
- The set backs from the main structure and the trees are another improvement.
- The unified 'green' vehicle system is terrific!

So, what's not to like?

- I would like to see a commitment to have an ultra-fine particulate matter study completed as a condition of CONRAC moving forward.
- The proposed garage needs to still be lower. I believe the increased cost of putting two levels below ground can be justified as a public benefit.
- There simply is no justification for not including a filtration system and fans on a closed garage. The final design should include a sound barrier and additional trees than is currently proposed.
- I regularly walk by the area that contains the constantly illegally idling of the taxi pool and other vehicles. This is not the proverbial 'brain surgery' to enforce the laws already on the book - why is this not being done? Massport is allowing the pollution of our neighborhood. When in doubt use the issue of the pocketbook, i.e., last back in line, leave the pool for day, etc.

Thank you for taking these thoughts into consideration.

Very truly yours,

Susan Parker Brauner

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NOV 17 2009
MEPA

I-012-001

Please refer to Chapter 4, *Air Quality and Noise* for a discussion related to ultra-fine particulate matter as it relates to the Program.

I-012-002

Please refer to Chapter 1, *Proposed SWSA Redevelopment Program* for an evaluation of below-grade parking levels.

I-012-003

Please refer to Chapter 4, *Air Quality and Noise*, for a discussion of enclosure of the Garage Structure. Chapter 4 also presents the proposed noise attenuation measures.

Chapter 1, *Proposed SWSA Redevelopment Program*, describes in detail the landscaping plan for the Program.

I-012-004

In accordance with Massachusetts General Law, the anti-idling law (MGL, Chapter 111, Sections 142A - 142M), Massport will post 'no idling' signs throughout the SWSA. The Massport Ground Transportation Unit actively enforces the 5-minute idling law and issues citations to violators.

Canaday, Anne (EEA)

From: Allyson Gray [aonharbor@verizon.net]
Sent: Thursday, November 12, 2009 8:52 PM
To: Canaday, Anne (ENV)
Subject: EEA No. 14137

Secretary Ian A. Bowles—EOEEA
 c/o
 Anne Canaday
 100 Cambridge Street, Suite 900
 Boston, MA 02114

Re: Notice of Project Change
 Southwest Service Area Redevelopment Program at Logan
 EEA No. 14137

November 13, 2009

Dear Anne Canaday,

I am writing to you to let you know my opinion on the revised Conrac proposal that Mass port has made. I wrote to you when they first proposed this large parking facility. I am glad that they have reduced the project to 4 instead of 5 stories, and a reduction of the overall project size by 50%. I am glad that the main building is set back 60 feet from the neighborhood. However, it is still not enough. Massport has said that 6,000 cars and 32,000 bus trips a day will be going into and out of the new garage. Even with the new "green" vehicles, our air will be polluted. Here are the air quality issues that I hope MEPA will address:

- I-013-001** Enclose this garage facility. I mean that all four sides of the building should be walls, not open air. Massport says the cost is prohibitive. I say, the citizens' health is more important.
- I-013-002** Build an effective air filtration system in the garage, so that the fumes etc from the cars will not further pollute our air.
- I-013-003** Effectively police the taxi and limo pool. Currently drivers leave their vehicles running although there are posted signs that no more than 5 minutes of idling is allowed.
- I-013-004** Enlarge the landscaping of the area to include many more and taller trees to help absorb the carbon dioxide that the cars will be producing.
- I-013-005** Enforce Massport's participation in the ultra fine particular matter study that was required by the recent transportation bill.

Thank you,

Allyson Gray
 221 Webster St.
 East Boston, MA 02128
aonharbor@verizon.net
 617-569-5516

I-013-001

Refer to Chapter 4, *Air Quality and Noise*, for an evaluation on an enclosed Garage Structure.

I-013-002

Please refer to Chapter 4, *Air Quality and Noise*, for consideration of an enclosed Garage Structure.

I-013-003

In accordance with Massachusetts General Law, the anti-idling law (MGL, Chapter 111, Sections 142A - 142M), Massport will post 'no idling' signs throughout the SWSA. The Massport Ground Transportation Unit actively enforces the 5-minute idling law and issues citations to violators.

I-013-004

The landscape area or pervious area in the SWSA has been increased by approximately 6.1 acres compared to the 2007 Existing Condition (approximately 1.6 acres). Please refer to Chapter 1, *Proposed SWSA Redevelopment Program* for a detailed description of the proposed landscaping.

I-013-005

Please refer to Chapter 4, *Air Quality and Noise*, for a discussion on ultra-fine particulate matter as it relates to the Program.

Ella Arnau
364 Bremen Street
East Boston, MA 02128

AC

December 8, 2009

Secretary Ian A. Bowles
Executive Office of Energy and Environmental Affairs
ATTN: MEPA Office, Anne Canady
100 Cambridge Street, Suite 900
Boston, MA 02114

Subject: Logan Airport SWSA NPC – EEA No. 14137

Dear Secretary Bowles:

I-014-001 I am writing in support of the proposed Notice of Project Change, EEA No. 14137, regarding the proposed Southwest Service Area redevelopment program for Logan Airport. Nearly two years ago I wrote in support of the original SWSA program because of its potential to significantly reduce local street traffic from off-airport rental car agencies, while simultaneously reducing neighborhood air pollution by replacing the large number of individual rental agency busses with a consolidated system utilizing alternative fueled vehicles serving all of the rental agencies at one location. The redesigned SWSA program, as described in the NPC, represents an additional environmental improvement for East Boston by eliminating the original commercial parking facility.

As an abutter to the Bremen Street park I also appreciate Massport's restated commitment in the SWSA NPC to include a major airport edge buffer project, which would greatly improve the pedestrian and bicycle connectivity between the Bremen Street park neighborhood and the East Boston waterfront recreational resources such as Piers Park.

I respectfully urge you to expeditiously approve the Logan SWSA NPC so that the program's community benefits can be realized as soon as possible.

Thank you.



Ella Arnau

I-014-001

Thank you for your comment.

LISA GALLOTTO
127 PARIS STREET
EAST BOSTON, MA 02128

AC

I-015-001

Thank you for your comment.

December 6, 2009

Secretary Ian A. Bowles
Executive Office of Energy and Environmental Affairs
ATTN: MEPA Office, Anne Canady
100 Cambridge Street, Suite 900
Boston, MA 02114

RECEIVED

DEC 11 2009

MEPA


Subject: Logan Airport NWSA Proposal NPC - EEA 14137

Dear Secretary Bowles:

I-015-001

I write in support of the Massport Southwest Service Area NPC, which is identified as EEA No. 14137. As a lifelong resident of East Boston I welcome any proposal that would reduce local street traffic by relocating rental car agencies out of East Boston onto Logan Airport, and at the same time improve neighborhood air quality by eliminating the rental car diesel buses that constantly circle the airport roadway system close to my home. While the original SWSA proposal would certainly have accomplished this objective the new NPC is a notable improvement because it represents a downsizing of the overall project scope with a further reduction of air pollution.

Thank you.



Lisa Gallotto

Lena Bernabei
95 Cottage Street
East Boston, MA 02128

AC

I-016-001

Thank you for your comment.

December 3, 2009

Secretary Ian A. Bowles
Executive Office of Energy and Environmental Affairs
ATTN: MEPA Office, Anne Canady
100 Cambridge Street, Suite 900
Boston, MA 02114

RECEIVED
DEC 10 2009
MEPA

Subject: EEA No. 14137 Logan Airport NPC for The Southwest Service Area Program

Dear Secretary Bowles:

I-016-001

I strongly recommend that you quickly approve the Logan Airport Southwest Service Area Redevelopment Program NPC, referenced as EEA No. 14137. The original Massport proposal of two years ago for the SWSA held the promise of providing measureable environmental benefits for East Boston, principally by significantly reducing the huge number of individual rental car company busses and replacing them with a single low-emission bus system operated by Massport with much fewer vehicles. The new SWSA NPC not only retains this major air quality improvement but enhances it by eliminating the original airline passenger garage, which also reduces the overall project size and moves it further back from the nearest city street.

As a resident of the Cottage Street area I look forward to the neighborhood enhancements included in the SWSA NPC program including the airport edge buffer, pedestrian and bicycle pathways, and additional landscaping. Please don't delay your approval of this noteworthy program.

Sincerely,

Lena Bernabei

Lena Bernabei

FAX



Monday, December 14, 2009

TO: MEPA

FAX: 617-626-1181

FROM: Fred Salvucci
6 Leicester St
Brighton, MA 02135

Fax: 617-258-8073 Tel: 617-253-5378

A comment letter from Fred Salvucci follows this cover, on EEA NPC #14137 (Southwest Service Area Redevelopment Program at Logan International Airport). Please call me if you have any questions. Thank you.

NUMBER OF PAGES TO FOLLOW: 3

Please call Ginny at 617-258-8131 if there is any problem receiving or reading this fax. Thank you.

p.1

617-258-8073

MIT TRANSIT RESEARCH

Dec 14 09 03:50p

COMMENT LETTER

Secretary Ian A. Bowles
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
100 Cambridge Street, Suite 900
Boston MA 02114

Attn: Anne Canaday

In Re: EOE 14137, Southwest Service Area Redevelopment Program at Boston-Logan International Airport

Dear Secretary Bowles:

- I-017-001** 1. Massport should be applauded for dropping the construction of 4,480 commercially available parking spaces from the proposal. The next step should be for Massport to make a permanent commitment to live within the Logan parking freeze. Two elements would solidify such a commitment:
- (a) A guarantee of no further construction of parking spaces within Logan Airport or the adjacent East Boston community.
 - (b) Cooperation with MassDOT and the former MBTA to improve public transportation access to Logan Airport.
- I-017-002** 2. Massport commitment to a more environmentally acceptable access to Logan should begin, but not end, with the parking cap. Massport must also take specific short-term and long-term steps to improve public transportation access to Logan and make it attractive for air passengers to use transit instead of auto access to Logan. Reasonable public transportation initiatives should include:
- (a) Paying the MBTA a blanket fare to provide free access to the Silver Line at Logan, to improve loading times and travel times, and encourage more transit use.
 - (b) Financing the grade-separation of "T under D" to allow the Silver Line to pass under D Street without transit-auto conflict, and enhance transit on the Silver Line, roadway traffic on D Street, and pedestrian conditions on D Street. This would also allow the development of the Massport air rights parcel over the Silver Line in South Boston.
 - (c) The DEIS should make a detailed explanation of how Massport will implement Secretary Mullan's suggestion that Massport construct the East Boston-Chelsea link of the Haul Road and Urban Ring.

I-017-001

As presented in the 2009 NPC and described herein, the Program has been revised with the removal of the commercial parking component (3,000 spaces) and inclusion of the Unified Bus System (that enhances connections to the MBTA Blue Line Airport Station). Please refer to Chapter 1, *Proposed SWSA Redevelopment Program*, for further details. Furthermore, the Program would be in full compliance with the Logan Parking Freeze requirements (as demonstrated in Chapter 3, *Surface Transportation*).

I-017-002

As presented in the 2009 NPC and described herein, the Program includes the Unified Bus System (that enhances connections to the MBTA Blue Line Airport Station). Please refer to Chapter 1, *Proposed SWSA Redevelopment Program*, for further details.

Additionally, Massport will require the rental car companies to participate in the Logan Employee Transportation Management Association (TMA), which encourages the use of public transportation.

- (d) Enhanced Logan Express services, to encourage access and egress connecting Logan to suburban satellite locations by public transportation, including providing Rent-A-Car facilities at the suburban termini.

I-017-003

3. Now that Massport has indicated its intention to build a smaller ConRAC facility, the DEIS should do a full exploration of putting most of the ConRAC facilities at the Robie site. This location was suggested before, but Massport asserted that the original, larger proposed facility wouldn't fit. Now that Massport is proposing a facility for approximately half as many spaces, there should be serious consideration of locating ConRAC at Robie. The Robie site offers the following advantages:
 - (a) It is much further from housing and community facilities than the Southwest site, thus reducing the proximity of auto pollutants.
 - (b) A structure for ConRAC at the Robie site could help provide a noise buffer for the Eagle Hill and "flats" neighborhoods, mitigating the excessive noise exposure now caused by aircraft taxi operations.
 - (c) Robie could be a joint development site including job-generating, transit-oriented space, given the proximity to the Airport MBTA station.
 - (d) The shuttle connections to and from Logan terminals and ConRAC can coincide with the shuttle connections from Airport Station and Logan terminals. This would dramatically reduce congestion at the terminals and significantly improve frequency and convenience for all passengers. The implementation of the unified shuttle, demonstrated in Figure 1.9, would become simpler.

I-017-004

4. The edge park around the Southwest area should be more generous, and implementation should proceed independently and as soon as possible. The edge park is not mitigation for ConRAC. It is part of a good neighborhood policy initially committed to in the 1975 community Master Plan process, and strengthened during the Big Dig environmental process, but only partially implemented. A reasonably generous parkland buffer should not await resolution of planning and implementation of the Southwest area.

I-017-005

5. The Southwest area planning should be open to consideration of alternative uses that may be both more useful to Logan and more compatible with the neighborhood. This is a very significant piece of land in a land-poor airport, and a broad consideration of options should be undertaken.
6. The NPC indicates that air passenger volumes at Logan have dropped by 11.5%. Undoubtedly this is in part due to the economic downturn, but it is likely that it may also be in part a reflection of the increased popularity of Green Airport, Manchester, and improved rail service using the Acela. In light of the responsibility Massport

2

I-017-003

Chapter 1, *Proposed SWSA Redevelopment Program*, re-evaluates on-airport site alternatives in light of the reduced program, as presented in the 2009 NPC and herein. The Garage Structure has been reduced in both height and size, and has been relocated farther away from the nearby residential community. However, each of the other program elements—apart from additional commercial parking within the Garage Structure—has been retained in the revised Program. In addition, the Bus and Limousine Pools, which were to be relocated to the North Service Area under the Draft EIR/EA Program, have been retained within the SWSA as part of the revised Program. Even without considering landscaping and pervious areas, some of which would be required to satisfy applicable environmental standards and community concerns under any circumstances, the Program presently requires more than 41 acres of pervious surfaces to efficiently operate, serve the airport, and serve the rental car companies and customers. At least some of the additional 6.1 acres of landscaped and pervious areas proposed as part of the Program would remain necessary to meet environmental and community concerns no matter where on-airport the revised Program was to be located. Therefore, unless the Garage Structure was revised to be taller and far more massive, over 45 acres of land would be necessary to accommodate the Program no matter where on-airport the revised Program was to be located. As shown on Table 1-2, *Rental Car and Parking Planning Alternatives*, the SWSA remains the only on-airport parcel of sufficient size. The other possible on-airport site locations are all too small.

In many cases, those other airport parcels are already being used for other essential airport functions which cannot be displaced, or are under planning consideration for such uses in the future, and thus are not reasonably available to serve the revised Program.

Even more importantly than SWSA's appropriate size and availability for

now has for Worcester Airport, and the possibility of significantly improved Inland Route rail service from Boston to New York via Worcester, Springfield, and Hartford, it may well be that the passenger growth projected by Massport is too high, even when the economy recovers. The likelihood that fuel prices will continue to rise suggests that even with a return of economic health, air passenger growth at Logan may be flat or declining. Of course, this should not justify continuation of the status quo, with the excessive Rent-A-Car shuttles that cause congestion. But it does suggest that there is no urgency to rush ahead without careful consideration of the alternatives.

7. It has been suggested that Massport may seek a TIFIA loan to advance this facility. But MassDOT may need to use TIFIA loans to advance urgent rail rehabilitation. TIFIA loans may be a limited resource and before an irretrievable commitment is made for this purpose, in the spirit of the unified approach to transportation embodied in the recent transportation reform legislation, there should be a transparent disclosure process to be certain that Massport use of TIFIA funds is not precluding other MassDOT priorities of greater environmental significance, such as the SIP Commitments or early action components of the Urban Ring.
8. Finally, it appears increasingly likely that Logan air and ground operations are having adverse health impacts on people in East Boston, Chelsea, Revere, and Winthrop, but the funding for health impact studies has been halted. Although commitments were made as part of the relaxation of the injunction on construction of Runway 14-32, that wind-restricted use of the runway would avoid a tripling of overflight of the East Boston, Chelsea, Everett, and Somerville corridor, the tripling of overflight has in fact occurred. This makes a mockery of an extremely visible and lengthy environmental process. Before Massport is allowed to continue pursuing a very narrow interpretation of its mission, serious consideration of the environmental rights of airport neighbors requires that the health effects study be completed with Massport funding, and that Massport take action to reverse the tripling of overflights caused by its construction of Runway 14-32.

Respectfully submitted,



Frederick P. Salvucci
6 Leicester Street
Brighton, MA 02135

use, however, is the SWSA's excellent proximity to the key airport roadways which provide efficient access not only to the airport terminals but also to the regional highway system. The SWSA's uniquely superior access characteristics will allow the proposed Unified Bus System to improve air quality while providing convenient access to and from the MBTA Airport Station, the airport terminals, and the consolidated rental car operations. Any other airport location considered for the revised Program would make the Unified Bus System less efficient, and would likewise unnecessarily drive up Vehicle Miles Travelled by airport users.

I-017-004

As discussed in Chapter 1, *Proposed SWSA Redevelopment Program*, the pervious area of the SWSA has been increased by approximately 6.1 acres compared to the 2007 Existing Condition. Due to the confined area of construction and required phasing for implementation it is not possible to construct all of the perimeter landscape at one time. It is anticipated though that portions of the landscape area and buffer can be implemented during early stages of the proposed construction period to assist with buffering the community from construction activities.

I-017-005

Please refer to Chapter 1, *Proposed SWSA Redevelopment Program*, for an overview of the alternatives analysis, including the siting process for the Program.

I-018-001

Thank you for your comment.

Canaday, Anne (EEA)

From: Chris [chris@djchrisfiore.com]
Sent: Thursday, November 12, 2009 12:14 PM
To: Canaday, Anne (ENV)
Cc: 'James Bowen'
Subject: Secretary Bowles: Consolidated Rental Car Facility (CONRAC)

Secretary Bowles

Please enough is enough.

Stop taking parts of East Boston away in name of the airport. **Start Giving****The airport took Woodisland Park and its beaches away from us.**

I-018-001 This area used to be a wonderful park with trees and beaches that stretches all the way up to the Orient Heights.

It would benefit the city so much more if you made it a park for the children.

This area could connect to the stadium. Can you imagine what a wonderful place for the children to gather, to play sports?

Families to have pick necks, Children's events, a community center to give the children in the area something to do!

WOW the possibilities benefits it could have the community. The POSTIVE IMPACT it could have on the CHILDREN!

Or would we rather them find other things to on our city streets?

This would bring the property value up for the surrounding home! WOW so many benefits!

This city is as congested as it is. The fumes from the cars, the extra traffic this will bring to our small island.

The construction of the new bridge. It so logical that this wrong in so many ways.

How is that the people in charge are even considering this?

I have lived here for 50 years. We tend to forget East Boston is Island. Let's stop this. Let's move forward for the community. This is there home, This is my home!

We are not just passing through!

SINCERELY,

Chris DiFiore

116 EUTAW EAST BOSTON MA 02128

CHRIS@DJCHRISFIORE.COMDJCHRISFIORE.COM

(617) 569-

7989

14137 8 December, 2009

AC

I-019-001

Please refer to Chapter 1, Proposed SWSA Redevelopment Program, for an overview of the alternatives analysis, including the siting process for the Program.

Dear Secretary Bascles and Director McDevitt,

As a life long resident of East Boston I write in opposition to the proposed CONR garage in the South West Service Area of Logan airport. It is a site immediately adjacent to a dense residential area in Jeffries Point.

Because we are all so close to the airport we suffer the noise, air pollution and traffic impacts of all the airport operations. Over many years we have waged strong opposition to airport growth and the severe impacts from many of the growth projects.

I-019-001 We know the airport is there to stay but the impacts must be protected, buffered and measured by the state, city and federal governments to protect the citizens. In the large airport interchange surely there must be another site further away from a residential neighborhood where the M. P. A. could site this facility.

Since the first draft E.I.R. The

building has been downsized and the number of cars has been reduced. It has even been put back a little bit. These actions of redesign say to me that with more effort the designers for the airport could take it apart to fit other sites on airport land at more of a distance from residents.

You must know, also, that since the newest runway (14-32) has been in use a ^{huge} change in negative noise impacts has happened in the Eagle Hill neighborhood. Use of new runway configurations with a 2 to 3 times increase in runway 33 departures has hurt the most densely populated neighborhood in East Boston.

The state has never helped us in our runway and taxiway issues. It hasn't helped in trying to get soundproofing in all our homes. So perhaps you will take a closer look at this project.

I-019-002

During the preliminary meetings on this CONRAC proposal citizens asked the M.P.A. to put walls on the garage. We also suggested that they capture the

I-019-002

Please refer to Chapter 4, Air Quality and Noise, for consideration of an enclosed Garage Structure.

I-019-002

former with a ventilation and filtration system of some kind like the ones used in the tunnel. The M.P.A. cited costs for not doing it.

One neighbor suggested that some levels of the garage be built under the ground to decrease the height. Once again the M.P.A. cited cost as an issue.

I-019-003

Another issue we raised at all the meetings was for the M.P.A. to measure the ultrafine particulate matter. We found out that these particles were very harmful to us. The M.P.A. downplayed this concern and wouldn't measure them.

So we worked very hard with our elected politicians to get a provision in the transportation reform act which would require transportation agencies to measure and evaluate the health impacts of ultra fine particulate matter. It is not clear to us if the M.P.A. feels obligated to follow this requirement in the law. So I ask that the state M.P.A. office require that the M.P.A. do this and that you include this requirement in the scope

I-019-003

Please refer to Chapter 4, *Air Quality and Noise*, for a discussion on ultra-fine particulate matter as it relates to the Program.

for the final E.I.R.

You should also know that the health study that the state department of public health was doing to evaluate the health impacts of airport operations was stopped because of budget cuts.

We know that the study was showing great impacts on the health of residents from airport operations. Joe Shortallian from N.B. 2 reported these initial results a while ago June. I suggest that as part of the scope for the final E.I.R. you require the H.P.A. to fast the bill to finish this important health study. This health study would provide a fund of important information for you and us to understand what we face as neighbors of a major airport. I believe that the D.P.H. would also show ways to mitigate these impacts.

One of my neighbors is very smart and knows how to interpret the scientific graphs and figures in the N.B.C. He said that although the number of cars in the revised proposal are fewer in number the number of shuttle trips per day will show a

I-019-004

significant increase. Because the proposed garage is right in the middle of an area with a bus & limo pool, a taxi pool, an overflow parking area, a flight kitchen and the back gate of the airport, many other vehicles travel around this limited space adjacent to our homes. One must look at the total impacts of all the vehicle trips in the area.

My next door neighbor found the enclosed article from the Los Angeles Times about ultra fine particulate matter at the Santa Monica airport. Please read it and include it with my comments and concerns in the official record.

In conclusion I short list my concerns on the CONRAC proposal and request that the M&P A. office include the concerns and requests in the scope for the final EIR.

They are:

- garage too close to residential area
- garage too tall for area
- M&P A. must measure and evaluate health impacts of ultra fine particulate

I-019-004

Chapter 3, *Surface Transportation*, presents traffic analyses that includes all traffic currently or proposed to use the SWSA, including rental cars, taxis, service vehicles, buses, limousines, Flight Kitchen vehicles, long-term overflow commercial parking vehicles, and local East Boston traffic.

- too many vehicle trips per day for this small area
- find alternative site for garage
- if built, enclose the garage
- if built, vent and filtration system must be included
- if built construct 2 levels below ground.

I appreciate your reading this letter. I hope you accept my suggestions and adjust the scope to reflect the issues and concerns.

Sincerely yours,
 Mary Ellen Welch
 225 Webster Street
 East Boston
 617-569-3899

1.

Study finds higher air pollution near Santa Monica Airport

By Dan Weikel

November 19, 2009

UCLA researchers find ultrafine particle emissions are 10 times higher than normal 300 feet from the runway -- a range that includes many homes. The study calls for larger buffers at urban airports

UCLA scientists have found that people who live and work near Santa Monica Airport are exposed to high levels of air pollution-- a significant health concern that has been largely associated with major commercial airports such as LAX.

The study, released Wednesday, shows that ultrafine particle emissions were 10 times higher than normal about 300 feet downwind of the runway's east end, where takeoffs generally start. The levels were 2.5 times higher than normal at a distance of about 2,000 feet.

A tiny fraction of the width of a human hair, ultrafine particles can travel deep into the lungs, penetrate tissue and even travel to the brain. Studies show that elevated exposure to the particles presents a health risk for children, older adults, and people with respiratory and cardiovascular diseases.

Although the research focused on Santa Monica, the study may have broader implications for regional and municipal airports that serve private planes and corporate jets. Many such airfields in Southern California are in densely populated areas.

"Our research shows the potential impacts of smaller airports on residential areas and that we ought to have more of a buffer around airports," said UCLA professor Suzanne E. Paulson, an atmospheric chemist who worked on the study. "This is not just happening at Santa Monica."

The Santa Monica Airport sits on a plateau surrounded by businesses and homes, some less than 300 feet from the runway. For years, nearby residents and business owners have complained about aircraft emissions and the growing use of corporate jets.

"It's just horrible," said Virginia Ernst, who lives about 300 feet from the runway's east end. "They line the planes up and the fumes just invade your home. Sometimes you have to leave because it is so bad."

The university's Department of Atmospheric and Oceanic Sciences conducted the study

Canaday, Anne (EEA)

From: Daniel Cronin [dancr@1800radiator.com]
Sent: Thursday, November 12, 2009 4:05 PM
To: Canaday, Anne (ENV)
Subject: CONRAC Facility EEA No. 14137 support and change proposals

Secretary Ian A. Bowles
 EOEAA
 100 Cambridge Street, Suite 900
 Boston, MA 02114

Re: Notice of Project Change
 Southwest Service Area Redevelopment Program at Logan
 EEA No. 14137

Dear Secretary Bowles,

Regarding the above referenced project notice, I would like to voice my support for the following changes:

- I-020-001**
- 1) Unified Bus System. The consolidation of all rental car shuttles into one Massport-operated fleet of "green" vehicles. The green vehicles should stay and should remain tied into the Blue Line.
 - 2) 60 foot and 10 foot setbacks. The setback of the main structure away from the neighborhood is very important for reducing the impact of fine particulate matter. This needs to remain a part of the project. I would like to suggest adding more trees to the setback area to absorb the carbon dioxide emitted from the garage cars.
 - 3) Reduction of height to 4 stories from 5 is good and should remain a part of the plans with further consideration of height reduction mention below.
 - 4) Reduction of overall project size by 50% is good and should stay.

I would also like to suggest that the following changes to the project be considered:

- I-020-002**
- 1) Addition of a fully closed facility with filtration system. There will be thousands (almost 6,000 cars and 32,000 trips per day) of cars starting their engines and driving in the facility which will create immense concentrated pollution in the area. Many will be "cold starts" which to Massport's credit they have reduced from their original plan, but not completely eliminated. Cold starts give off much more pollution than hot ones. Starting a car is much more polluting than driving a car at a constant speed. Also they will be accelerating and decelerating throughout the garage which is much worse than driving at a constant speed.
 - A proposed alternative is that Massport make the facility closed on all 4 (or at a minimum the 2 sides away from the neighborhood) and use a filtration system to clean the air as it exits the building. This is costly, but otherwise our families and children will be breathing in much dirtier air all day long. If they can't make it closed on all 4 sides then at least 1 or 2 should be closed and they should increase the amount of trees around the building because that will provide a "sink" to help absorb some of the CO2 from the cars.

I-020-001

The pervious area of the SWSA has been expanded to approximately 7.7 acres site-wide (compared to approximately 1.6 under the 2007 Existing Condition). Chapter 1, *Proposed SWSA Redevelopment Program*, provides a detailed description of the proposed landscaping.

I-020-002

Please refer to Chapter 4, *Air Quality and Noise*, for consideration of an enclosed Garage Structure. Chapter 1, *Proposed SWSA Redevelopment Program*, provides a detailed description of the proposed site landscaping, which includes trees.

I-020-002

- Massport has made unacceptable excuses as to why they don't want to do this, such as creating angled openings to draft the air upwards and out of the building and "away from the community". They also noted that exhaust fans would be loud if the fan belts were not replaced. These excuses are ridiculous - there can be no substitute of angled windows in lieu of a real filtration system and it is easy and cheap to construct a sound barrier for the fans if necessary. The fan belts should be replaced when they wear out to keep the equipment operating properly.
- If this cannot be added, I would like to hereby request a public explanation as to why Massport will not consider a closed building with a filtration system. With an effective filtration system, CONRAC could actually provide a net environmental benefit to the community by eliminating much of the rental car pollution already spread around our neighborhoods. This surely would outweigh any cost concerns. Massport should be decreasing the airport and related facility's environmental impact on our community wherever possible, not adding to it.

I-020-003

- 2) Building Height. Massport should put 2 levels of the garage underground so that the total height is only 2 stories and the shadow cast over the neighborhood is much lower. They say the construction costs are 2.5 times higher, but Massport is a public agency and should act in the benefit of the people and not their bottom line like a corporation. Although this was suggested at previous community meetings, they refused to study and consider it.

I-020-004

- 3) Taxi pool. I would like to make the following a condition that must be met in order for further action on CONRAC. Currently and for the future there is a taxi waiting pool located on the western edge of the proposed CONRAC site and a limo pool on the eastern side. Massport has a ban on idling of taxis and limos while they are waiting but they have completely failed to enforce it. They have even built a shelter for them to wait in when it is cold. Idling is hazardous because it gives off exhaust into an area right next to a residential neighborhood. They admitted they have not done a good job of enforcing it, but said that they are looking for suggestions from the community because they don't know how to do it.
 - I was surprised because this is a parking lot with defined borders and they should be able to enforce their own rules within a small parking area. My suggestion is to send a Massport employee to check on the cars several times a day and if any car is found to be idling then they are sent to the back of the line or expelled from the lot for the day. This would cause economic pain to the drivers and they would surely stop idling immediately. Frequent offenders should not be allowed to enter the pool. This should not be a problem to enforce if a stringent system is implemented and followed.

I-020-005

- 4) Ultra fine particular matter study. Massport is trying to keep the CONRAC project out of the ultra-fine particular matter study that was required by the recent transportation bill legislation of all transportation projects within a certain distance from a residential area (includes highways, trains, airports, etc). I would like to require that as a condition of them moving forward with CONRAC, the proposal be included now and for the future in any environmental study, in particular this one that was legislated recently.

Thank you for your time and for your consideration of the above requests.

Sincerely,

I-020-003

Chapter 1, *Proposed SWSA Redevelopment Program*, addresses the feasibility of below-grade parking levels for the Garage Structure.

I-020-004

In accordance with Massachusetts General Law, the anti-idling law (MGL, Chapter 111, Sections 142A - 142M), Massport will post 'no idling' signs throughout the SWSA. The Massport Ground Transportation Unit actively enforces the 5-minute idling law and issues citations to violators.

I-020-005

Please refer to Chapter 4, *Air Quality and Noise*, for a discussion on ultra-fine particulate matter as it relates to the Program.

11/27/2009 15:14 FAX 617 826 1181

EXEC OFFICE ENV AFFAIRS

011/024

Dan Cronin
34 Princeton Street
East Boston, MA 02128
617-970-9301 mobile

November 11, 2009

Rachel English
216 Webster #2
East Boston, MASecretary Ian A. Bowles
EOEEA
100 Cambridge Street, Suite 900
Boston, MA 02114Re: Notice of Project Change
Southwest Service Area Redevelopment Program at Logan
EEA No. 14137

RECEIVED

NOV 12 2009

MEPA

Dear Secretary Bowles,

East Boston has long been a transportation hub, and it is a designation that residents take pride in. From the first Clipper Ship to the many now defunct ports to the current airport, East Boston has benefitted from the confluence of peoples and changes that trade and transportation brings. But it has also been harmed, most drastically in the form of the environmental damages constant air and car traffic bring to local residents. I was stunned, recently, to see a map of the numerous environmentally contaminated sites in the small landmass of East Boston. Almost all of them were related to the airport industry. It is with that in mind that I am writing today in regards to the proposed parking structure at the Logan International Airport near the Jeffries point neighborhood.

First of all, I would like to applaud the proposed changes to the original design of the new facility. These seem like great improvements, overall. The decision to pursue LEED certification, to use "green" vehicles in the bus fleet, to reduce construction time, and to further minimize the light and noise interference to local residents is quite admirable.

However, I am concerned with a number of aspects of the proposal and I would like MassPort to act quickly to change the following aspects of the facility and their process:

I-021-001

1) Primarily, I am concerned about the amount of pollution that will be entering the neighborhood due to the thousands of cars that will start and run their engines in the building every day. My understanding is that the structure as currently proposed is open-air. This does nothing to mitigate the exhaust being blown into neighbors' faces. For this reason, I would like to propose that the building be enclosed with a filtration system that would clean the exhaust before it is released into the community.

I-021-002

2) Additionally, it appears that the parking structure's Southern edge closely abuts the Jeffries point neighborhood near Maverick Street. A towering four-foot structure so close to our neighborhood would reduce the quality of life due to a reduction of sight lines. It would drastically change the feel of the neighborhood. I would therefore like to propose that the facility's Southern edge also observe the 60-

I-021-001

Please refer to Chapter 4, *Air Quality and Noise*, for consideration of an enclosed Garage Structure.

I-021-002

Please refer to Chapter 1, *Proposed SWSA Redevelopment Program*, for an updated visual impacts analysis.

I-021-002 foot set-back as on its Western and Northern edges and/or that this portion be dropped underground so that no more than 2 levels are above-ground. Either of these options would also help to reduce the air pollution problems mentioned in (1).

I-021-003 3) Further, I want to emphasize the importance of including this structure in the Ultra-fine particulate matter study recently approved by the Massachusetts legislature. This piece of legislation is one that East Boston, Chelsea, and Winthrop residents, as well as residents of other areas which have a large amount of low-altitude pass-bys, have long advocated for. We need to know how the airport is affecting our health and this study is one way to ascertain the health affects. But for East Boston residents, the effects of the airport do not end at low-altitude flights. The vast majority of other Logan airport-related industry (including shipping, oil, and parking) is in our city. We deserve to know how that, too, is affecting our health. For that reason, it is important to include the new facility in this study.

I-021-004 4) Finally, I believe that MassPort has not done its due diligence in informing local residents of the proposed changes. I live only three blocks from the new parking structure on Webster Street in Jeffries point. I can see the current rental car parking area from my upstairs window. Any proposed changes to the current rental car lot will directly affect my quality of life. And yet, I did not receive anything at my door or through the mail informing me of this process. As a semi-public entity, Massport has the duty to inform local residents of changes and updates to its facilities that may affect our quality of life.

As I mentioned before, I am very proud of East Boston's long history as a center for trade and transportation. Almost half of my house works in Logan airport-related jobs, and we recognize the airport's continued importance in our economy. But that does not mean that we should feel its environmental effects on our health every day. Please consider implementing the changes I have suggested above.

Sincerely,

Rachel English
East Boston Resident

I-021-003

Please refer to Chapter 4, *Air Quality and Noise*, for a discussion on ultra-fine particulate matter as it relates to the Program.

I-021-004

Massport has distributed copies of each of the filings for public review, as required by the MEPA regulations. Also, in accordance with MEPA regulations, Massport has made copies of the environmental impact documents available at libraries in communities surrounding the Airport as well as posted a copiesof the full report on Massport's website for public viewing. Additionally, throughout the MEPA process Massport has held numerous community meetings and will continue to hold community meetings prior to the conclusion of the MEPA review process. Please refer to the *Summary* chapter for a list of these meetings.

Audrey Lee
156 Porter St., #349
Boston, MA 02128

November 12, 2009

Secretary Ian A. Bowles
EOEEA
100 Cambridge Street, Suite 900
Boston, MA 02114

Care of: MEPA Analyst, anne.canaday@state.ma.us

Re: Notice of Project Change
Southwest Service Area Redevelopment Program at Logan
EEA No. 14137

RECEIVED

NOV 12 2009

MEPA

Dear Secretary Bowles,

I am writing to express my concerns regarding the Consolidated Rental Car Facility (CONRAC) that has been proposed at Logan.

Many improvements have been made to the plan, but as an adjacent resident and as a new mother there are still a few matters of concern to me.

This project will have a dramatic impact on the already high levels of pollution in the neighborhood. I think Massport needs to consider healthier alternatives to reduce these environmental impacts, even if it means increased costs.

I commend the following improvements and urge you to keep them in the plan:

1. Unified Bus System with fleet of "green" vehicles tied to the Blue Line.
2. 60 foot and 10 foot setbacks. The setback of the main structure away from the neighborhood is very important for reducing the impact of fine particulate matter. In addition, more trees should be put in the setback area to absorb the carbon dioxide and other pollutants emitted from the garage cars.
3. Reduction of the height to 4 stories from 5.
4. Reduction of overall project size by 50%.

I object to the following and urge you to make changes:

1. Filtration system. There will be thousands of cars starting their engines and driving in the facility which will create immense concentrated pollution in the area. Many will be "cold starts" which to Massport's credit they have reduced from their original plan but not completely eliminated. Cold starts mean that the cars' catalytic converters are almost entirely ineffectual until warm, directly releasing pollutant emissions into the surrounding neighborhood.

I-022-001

The pervious area of the SWSA has been increased by approximately 6.1 acres compared to the 2007 Existing Condition (for a total of 7.7 acres site-wide). Chapter 1, *Proposed SWSA Redevelopment Program* provides a detailed description of the proposed landscaping.

I-022-002

Please refer to Chapter 4, *Air Quality and Noise*, for consideration of an enclosed Garage Structure.

I-022-001

I-022-002

I-022-002

I support the proposed alternative that Massport make the facility closed on all four sides (or at a minimum the two sides away from the neighborhood) and use a filtration system to clean the air as it exits the building. This is costly, but otherwise our families and children will be breathing in much dirtier air all day long. If all 4 sides cannot be closed then at least one or two sides should be closed and the number of trees around the building should be increased. The trees can provide a "sink" to help absorb some of the CO2 and other pollutants from the cars.

Massport has claimed that they will instead create angled openings to draft the air upwards and out of the building away from the community. Also Massport has claimed that the exhaust fans would be loud if the fan belts were not replaced. These claims and alternatives are unsatisfactory and irrational. There can be no substitute for a real filtration system in lieu of angled windows. It is also easy to construct a sound barrier for the fans. In addition, fan belts should be replaced when they wear out. Specifically, I want Massport to explain why they will not consider a closed building with a filtration system.

Just as smoke stacks have been found to be ineffectual for coal power generation plants and pollutions scrubbers are instead necessary, this garage will generation pollution like a power plant and needs a filtration system.

I-022-003

2. Building Height. Massport should put two levels of the garage underground so that the total height is only two stories and the shadow cast over the neighborhood is much lower. Specifically, Massport should study this proposal and consider it seriously.

I-022-004

3. Taxi pool. In order for further action on the CONRAC, I request that you make the enforcement of the idling ban a condition that must be met first. Massport has completely failed to enforce its ban on the idling of taxis and limos while waiting. They have even built a shelter for the drivers to wait in when it is cold. Idling is a health hazard because it gives off exhaust into an area right next to a residential neighborhood. In addition it wastes transportation fuel which ultimately increases the price of fuel for everyone. Massport has admitted to not having done a good job of enforcing it but claimed that they are looking for suggestions from the community because they don't know how to enforce it.

I request that a Massport employee be sent to check on the lot several times a day and if any car is found to be idling then they are sent to the back of the line, expelled from the lot for the day, or fined. This would cause economic pain to the drivers and they would surely stop idling immediately.

According to Natural Resources Canada
(<http://oee.nrcan.gc.ca/transportation/idling/wastes.cfm?attr=28>):

"Considering all factors, if you're going to be stopped for more than 60 seconds - except in traffic - turn the engine off. Unnecessary idling wastes money and fuel, and produces greenhouse gases (GHGs) that contribute to climate change."

I-022-005

4. Ultra fine particulate matter study. Massport is trying to keep the CONRAC project out of the ultra-fine particulate matter study that was required by the recent transportation bill legislation of all transportation projects within a certain distance

I-022-003

Chapter 1, *Proposed SWSA Redevelopment Program*, addresses the feasibility of below-grade parking levels for the Garage Structure.

I-022-004

In accordance with Massachusetts General Law, the anti-idling law (MGL, Chapter 111, Sections 142A - 142M), Massport will post 'no idling' signs throughout the SWSA. The Massport Ground Transportation Unit actively enforces the 5-minute idling law and issues citations to violators.

I-022-005

Please refer to Chapter 4, *Air Quality and Noise*, for a discussion on ultra-fine particulate matter as it relates to the Program.

I-022-005

from a residential area (including highways, trains, airports, etc). I request that such a study be done. If such a study is too time-consuming and will cause a significant delay for the project, then the filtration system mentioned above should also filter out ultra fine particulate matter.

Thank you in advance for considering my concerns and responding to my requests.

Sincerely,

Audrey Lee
617 818 4161
audrey.j.lee@gmail.com

Laura L. Modica
6 Swift Terrace
East Boston, MA 02128

November 16, 2009

RECEIVED

NOV 18 2009

MEPA

Alicia McDevitt, MEPA Director
Executive office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

RE: Southwest Service Area Redevelopment Program at Boston-Logan International Airport
East
Boston, Massachusetts
EEA No. 14137

Dear Director McDevitt:

My name is Laura Modica and I reside at the above-mentioned address. I have received a copy of the above-mentioned project and I have a few questions which I would appreciate a response to. First let me start out by saying that my property is located directly behind the flight kitchen building which will become activated in the near future. Now that you know where I am located here is a list of my concerns:

I-023-001

1. Will the traffic layout stay as it is currently with the gate being closed and the new kitchen service using the roadway which Sky chef currently uses?

I-023-002

2. Will there be a noise barrier put into play. Ex: Trees, bushes to muffle some of the noise?

I-023-003

3. How long is the bus/limo pool staying behind my house in that area? Will the five minute rule for vehicles idling be enforced?

I-023-004

4. Also it was brought to my attention that there is a discussion on building a Public Access near The North Service Area? I would like to know more about that plan. I strongly disagree with there being Public Access there.

I-023-005

5. Do we have any idea when exactly this project will begin?

I-023-006

6. Will there be community meetings and where/when will they be held?

I-023-001

Under the 2013 Interim Build Condition, current designs for the temporary Bus and Limousine Pool in the North Service Area provide the access route for the flight kitchens from Wood Island Park Road along the southern side of the currently vacant flight kitchen building in the North Service Area. The existing gate would remain as an emergency access for the fire department.

I-023-002

As discussed in Chapter 6, *Construction*, during construction, the Bus and Limousine Pools will be relocated from the SWSA to the North Service Area (NSA) temporarily. Bus/limousine routes and parking will be located 200 feet or more from the closest residences (Swift Terrace) and the NSA is separated from the temporary Bus and Limousine Pool area by the MBTA Blue Line tracks. Also, ambient noise includes traffic on Route 1A and Bennington Street.

I-023-003

Please refer to Chapter 6, *Construction*, for a detailed description of the construction schedule and phasing. In accordance with the MA Anti-Idling Law, Massport will post no-idling signage for the Program. Additionally, anti-idling will be included in tenant audits.

I-023-004

Massport is currently developing the North Service Area (NSA) Buffer Project within the parcel located adjacent to Frankfort Street, Neptune Road and Vienna Street. The design of the buffer parcel intends to include landscape improvements to beautify and improve pedestrian

Please understand Director McDevitt that I have worked long and hard with Massport regarding my residence and the issue of noise. I understand I live behind the airport but for the past year it has been very tolerable with the changes that were made for us. I would hate to see all the hard work that was done be undone because of this new project.

Please feel free to contact me at anytime with any questions you may have.

Thank you for taking the time to address this important matter. I look forward to hearing from you.

Sincerely,



Laura L. Modica
6 Swift Terrace
East Boston, MA 02128

Work # 617-788-2225
Home# 617-306-9668

connectivity for the area. No other public access to the NSA is envisioned.

I-023-005

Please refer to Chapter 6, *Construction*, for a detailed description of the construction schedule and phasing.

I-023-006

As discussed in the *Summary* chapter, Massport held a number of public outreach meetings/presentations for the 2007 ENF, 2008 Draft EIR/EA and the 2009 NPC. It is anticipated that additional Massport community meetings/presentations will be scheduled as the project proceeds.

1100, 24, 2009

Dear Ms. Canaday;

This letter is meant to vehemently oppose the Notice of Project Change (NPC) for the Southwest Service Area Redevelopment Program at Boston - Logan International Airport in East Boston, Mass. [EEA, No 14137] which was filed with your office on Oct 15, 2009.

This (NPC) [EEA, No 14137] proposal will create a tremendous amount of noise and pollution from cars to an already inundated area subjected to noise and fumes of airplanes on the ground and in the air.

Please consider when voting on this proposal, the harmful effect it would create for the health and well-being of the residents abutting and surrounding this proposal.

Happily, you and your committee, will vote against the [EEA, No 14137] proposal. Please consider that we, the residents of East Boston, have to live every day with your final decision.

Thanking you in advance.

Sincerely,

Mrs Elizabeth Mazzarini
299 Maverick St
East Boston, Ma

- 02128-

I-024-001

The Program would not result in significant air quality- and noise-related impacts. Refer to Chapter 4, *Air Quality and Noise* for a revised air quality analysis and noise assessment.

I-024-001

RECEIVED

Joseph E. Steffano, Jr.
2 Swift Terrace
East Boston, MA 02128

Mr. Thomas Ennis
Massachusetts Port Authority
One Harborside Drive
East Boston, MA 02128

Re: Southwest Service Area Redevelopment Program
EEA No 14137

Dear Mr. Ennis,

This letter is written in reference to the anticipated project relative to the Massport Southwest Service Area, particularly with regard to the impact of your project to the North Service Area.

My understanding of your upcoming plans is that you will be conducting a demolition of buildings in the Southwest Service Area, combining services that will require Massport to reroute traffic and conduct business in and around the North Service Area as you work on the Southwest Service Area and that your project will begin in 2010 and run until 2015.

As a neighbor to Massport I have witnessed and I understand your requirements for improvement and oftentimes expansion. I do not wish to stop your endeavors, however please understand as a neighbor that makes his home directly next to the North Service Area I wish for my concerns for the anticipated project to be documented and they are as follows:

I-025-001 Noise – I am concerned over the sounds that will emanate from this project, most notably late and night and early in the morning as the buses and trucks backing up and utilizing the OSHA back up alarm will add extra noise to our living environment.

During your last project in the North Service Area our neighborhood was assured that we would not hear the truck back up alarms except during normal work hours but this is not feasible as common sense dictates that snow plow services are performed at all hours of the day and building materials are delivered prior to normal working hours to ensure work for the laborers.

It would stand to reason that if the Bus/Limo Pool area is going to be located in the North Service Area then snow plows will be used and the noise that accompanies them will affect our living area. Again, not looking to stop your project I only wish that we come to an agreement about having realistic dialog about the actual impact of your 5+ year project if and when issues arise.

I-025-002 Exhaust fumes – Based upon my review of your report that you have provided to me, the North Service Area will serve as a Bus/Limo Pool and I wish to state that we want every assurance that the EPA 5 minute regulations relative to motor idling will be observed and enforced.

I-025-003 Lighting – It is my hope that you will be courteous in your decision making of where to place lighting on your Massport buildings and your work area relative to how it shines on and around my dwelling during the normal nighttime/sleeping hours.

I-025-001

As discussed in Chapter 6, *Construction*, temporary bus/limousine routes and parking will be located 200 feet or more from the closest residences (Swift Terrace) and the North Service Area is separated from the temporary Bus and Limousine Pool area by the MBTA Blue Line tracks. Also, ambient noise includes traffic on Route 1A and Bennington Street. It is for these conditions that any temporary activities in this area are expected to cause insignificant noise impacts to nearby residential areas.

I-025-002

In accordance with Massachusetts General Law, the anti-idling law (MGL, Chapter 111, Sections 142A - 142M), Massport will post 'no idling' signs throughout the SWSA. The Massport Ground Transportation Unit actively enforces the 5-minute idling law and issues citations to violators.

I-025-003

Lighting at the NSA for a potential Flight Kitchen and any temporary Bus/Limo Pool facilities will be designed the same as the Program - with lighting fixtures designed to reduce light spill.

I understand that you plan to demolish one Flight Kitchen and consolidate the services of the kitchens. Your plan is to use the newer kitchen facility located directly behind my house and it would stand to reason that truck traffic will increase as a result of this plan. The present kitchen building near my property conducts a considerable amount of noise as the noises generated by the adjacent MBTA trains reverberate off the Flight Kitchen building and travel into our yard area. There was talk of trees and plantings to be done along the track area to buffer the sounds of the trains off the building. There were plantings in the area that took and flourished and others that we not successful, through no fault of Massport. Given that your plans guarantee an increase in noise to the direct area I believe now would be a great time to re-address this issue and come to a resolution that will be enacted. I would specifically like to know your plans to buffer the noise from that area.

I would like to know your long term plans for the Bus/Limo Pool with regards to how you plan to further utilize the buildings and structures that you will use during your project after your project is complete in 5 years?

Also, in the past it has been discussed that a pedestrian path may be located in the North Service Area. I would like your assurance that any pedestrian path placed for Massport's convenience around my dwelling will be secured for Massport use and not open to the public.

Thus far I believe we have been good neighbors to each other, I am sure this will continue. I appreciate your efforts to reach out to the community and I look forward to your response.

Regards,

Joseph E. Steffano, Jr.

I-025-004

Please refer to the response to Comment I-025-001.

I-025-005

Please refer to Chapter 6, *Construction*, for the construction schedule and details on construction phasing.

I-025-006

Massport is currently developing the North Service Area (NSA) Buffer Project within the parcel located adjacent to Frankfort Street, Neptune Road and Vienna Street. The design of the buffer parcel intends to include landscape improvements to beautify and improve pedestrian connectivity for the area. No other public access to the NSA is envisioned.

Somerville) Move Massachusetts Board

617-625-5630

wigzamore@rcn.com

December 14, 2009

Ian Bowles, Secretary EOEFA
Attn: Anne Canaday, MEPA Analyst
100 Cambridge Street, Suite 900
Boston MA 02114-2524

Via Email: anne.canaday@state.ma.us

Re: NPC Southwest Service Area Redevelopment Program
At Boston-Logan International Airport

EOEEA #14137

Dear Secretary Bowles,

Thank you for the opportunity to comment on the Notice of Project Change for Massport's proposed Southwest Service Area (SWSA) Redevelopment Program at Boston-Logan International Airport (Logan).

Notwithstanding the reduction in built development program proposed for the CONRAC garage and the overall SWSA, the major environmental impact questions about this project have remained the same, unaddressed and unanswered, since the initial Environmental Notification Form was filed several years ago.

Logan is critically important to our regional economy and to ease of citizen travel to and from metropolitan Boston, but remains one of the largest air pollution point sources in New England and a special environmental challenge for those living near the airport in East Boston, Chelsea and Winthrop. The SWSA is an especially large public health management problem for those living on its edges.

In brief - Massport has not carefully designed the overall use of its East Boston properties to maximize economic benefit and minimize local environmental damage; neither Massport nor its consultants have looked at the science and serious health impacts of primary mobile pollution; and Massport has not considered ways that its garage-associated emissions might be mitigated through cost effective building systems for the benefit of visitors, workers and nearby residents. Notwithstanding the wisdom of a consolidated rental facility, a cleaner consolidated shuttle system and conversion to a hybrid taxi fleet, Massport has stubbornly refused to address the bigger health issues that negatively impact its neighbors.

I have attached an "outside the box" PowerPoint with two slides - existing aerial and concept - showing how easily Massport's SWSA might be reconfigured to provide a valuable green buffer between new commercial development and East Boston neighborhoods, both of whom would benefit enormously. This community development and urban design concept has two proposed alternate CONRAC locations - the best being the current Hilton site - and allows Massport to provide plots for a spectacularly sited new Hilton, several other moderately-sized hotels and associated commercial and exhibition space that would complement Massport's larger mission and the BCEC in South Boston.

This "outside-the-box" concept, or another serving the same principles, could be very sustainable, with near zero emission customer transportation and very good public transit access. It would allow all of Massport's central garages to be retro-fitted with state of the art air handling and ventilating systems that would result in much cleaner air for all who are affected. The linear commercial development would buffer East Boston residents from airport garages, operations and the Logan roadway system, as well as provide much needed recreational space and additional Boston Harbor access.

Next, the issue of local environmental impact and the utter fallacy of pursuing a global sustainability and climate strategy without also addressing mitigation of very large sources of local air pollution which threaten the well-being and lives of those who live and work too near.

(These comments are adapted from my comments on Parcel 7 in Boston.) As our attention moves from the acute and chronic health effects of regional secondary pollutants like ozone and PM2.5 toward the larger spatial and temporal scales of greenhouse gases, we need to remember that the most severe health impacts from ongoing manmade emissions stem from the very small spatial and temporal scales of primary mobile pollutants.

We cannot create a sustainable society or cities if we forget that humans are receptors of, as well as contributors to, primary mobile pollution. No amount of healthy diet, active transportation or other lifestyle changes will erase the relative health risks incurred by those unknowingly exposed to fresh pollution from very large mobile sources unless we also fully mitigate and manage those excess risks. Recently LANCET published on-line several papers relating greenhouse gas strategies and public health benefits, one of them an air pollution and public health analysis by Kirk Smith and others. With air pollution it is always worth remembering that "the place makes the poison" (Kirk Smith's 1999 Wesolowski Award Lecture).

This is because with toxicology, "the dose makes the poison" and with air emissions, "the place makes the dose". Thus, with Logan, the PLACE MAKES THE POISON.

I-026-002 You may find these LANCET articles, two of which are attached, generally interesting as EEA prioritizes its future work. I am also attaching a PowerPoint presentation that I made to US EPA's Clean Air Scientific Advisory Committee in Chapel Hill NC earlier this year during their consideration of EPA's First Draft of the Integrated Science Assessment for PM, a part

of the current NAAQS PM review under the US Clean Air Act. My comments, which were limited to three minutes, focused on the strong evidence available, in studies completed in recent years, of the connection between primary mobile pollution gradients and mortality.

I focus on examples from the excellent Harvard School of Public Health transportation worker series as well as some exceptional studies of chronic air pollution and mortality gradients in Stockholm Sweden. I have also included a Toronto study of mobile pollution, using NO2 as a marker, and ischemic heart disease mortality by Michael Jerrett, a co-author of today's LANCET papers. Finally I show some early pilot work we completed in 2007 and 2008 on near highway pollution gradients near 193 in Somerville. We are currently 18 months into a much larger five year NH study of highway pollution gradients and biomarkers of cardiovascular health in the Boston region. Full results from that study will not be available for some time.

I will forward separately the studies that I reference in my EPA presentation, as well several from the California Children's Health study, so that you and the project proponents may fully understand the serious nature of these associations between large primary mobile pollution sources and health outcomes. Obviously, it is important that you and the project proponents use this information to determine the degree of mitigation necessary for projects such as the Logan SWSA development. Please note that the California Children's Health study, which has caused a Federal court to remand EPA's most recent PM2.5 annual average standards, show more strength of association between fresh mobile pollutants and children's asthma and lung function than they show for PM2.5. This has ominous implications for future use of the East Boston playing fields alongside which Massport proposes to locate its taxi pool.

I-026-001

It is important to point out the daily trip count misdirection in the NPC comparison of DEIR and NPC Build trips. The Logan SWSA NPC makes a lot of the reduction in CONRAC garage square footage. Though this is admirable, it diverts attention from the fact that the future daily trips to and from the site are hardly reduced at all. In fact Massport unfairly takes credit in the NPC for a planned change in the Jefferies Point/Maverick Street gate traffic when analyzing the NPC 2018 build, but not when analyzing the DEIR 2017 build. Furthermore there is no adjustment made for the fact that the NPC program includes buses and limos where the DEIR Build case had none. These buses and limos will emit more than smaller cars.

Finally, for no good reason and notwithstanding the concerns raised by MA DPH's and my own ENF letter on this project, Massport has not yet analyzed the reduction in human inhalation of primary mobile emissions that could be realized through use of CONRAC garage walls, passive temperature controls and cost effective venting of polluted air - wherever CONRAC might eventually be located. Ultrafine particles and their associated particle bound PAHs and metals remain A GRAVE CONCERN for human health. I am attaching an expert elicitation from the Netherlands which suggests, despite the modest number of long term health studies on ultrafines, a .3 percent mortality concentration-response function for every 1000 ultrafine particles per cubic centimeter on an annual average basis. In other words, a 15 percent increase in risk of mortality for each 50,000 particles per cubic centimeter. Logan's roadways and garages have many 10,000s of ultrafine particles more per cubic centimeter than our regional averages. Even if one were to doubt the exact proportional responsibility of ultrafine particles in near source health effects, the transportation occupation and the residential roadway proximity studies have very strong outcomes. Fully apportioning the blame among components of the pollutant mixture is not a pre-requisite to protective action. It is long past the time when both EOEEA and Massport should address these issues and their mitigation head-on, perhaps with the assistance of MA DPH.

Accordingly I would respectfully ask the Secretary to request that Massport provide sufficient funds to allow MA DPH to finish the Logan Health Study and to begin a comprehensive ultrafine particulate monitoring program at Logan and in the surrounding neighborhoods.

Additionally Massport should be required in the FEIR to study all reasonable garage design and engineering techniques that could materially reduce mobile emissions that reach residents, workers and visitors. Finally Massport should be required to comply with the Healthy Transportation Compact recently enacted within the state's transportation reform legislation and to include a Health Impact Assessment within the FEIR which accounts for the types of health impacts that are reflected in the papers I am immediately forwarding.

Most Sincerely, Wig Zamore

I-026-001

Chapter 3, *Surface Transportation*, provides a complete revision of the transportation analysis based on the revised SWSA program. The chapter includes a consistent comparison of 2013 and 2018 No-Build and Build Conditions trip generation characteristics of the SWSA. These revised traffic projections were utilized in the air quality and noise assessments presented in Chapter 4, *Air Quality and Noise*.

I-026-002

The attachments referenced in this comment letter are very large and, therefore, were not included in this document. These attachments will be made available on CD-ROM upon request.

James W. Bowen

385 Meridian Street, Apt. 1, East Boston, MA 02128

Secretary Ian A. Bowles

EOEEA

100 Cambridge Street, Suite 900

Boston, MA 02114

Re: Notice of Project Change

Southwest Service Area Redevelopment Program at Logan

EEA No. 14137

Dear Secretary Bowles:

As a resident of East Boston, I offer the following comments on the aforementioned project change:

- 1.) Massport should keep the increase 60 foot and 10 foot setbacks. They should also keep the clean fuel unified bus system.
- 2.) **Buffer Zone** - Massport should increase the amount of trees and other materials that would act as a "sink" for CO2 and fine particulate matter so that it is absorbed in the buffer zone and does not reach the community.
- 3.) **Pavement/Heat Effect** - Massport should not use black asphalt pavement and should try to use lighter colors or other materials that would reduce the heat island effect of the project.
- 4.) **Building Height** - At least 2 levels of the garage should be underground so that the total height of the building casting a shadow on the neighborhood is not more than 2 stories. There is a strong precedent for underground parking in Boston and this should be done here because the height of the building will have a negative impact on Maverick Street and will effect the views from the Porter 156 loft building.

Massport has refused to investigate the possibility of putting the building underground. They have stated at public meetings that the estimated cost of underground construction is 2.5 times more expensive than above ground. I would like them to ask for an RFP from area contractors to determine the actual cost of putting one and two stories underground. An RFP request would be free to Massport to do. When they determine the actual cost of underground construction, I would like Massport to explain why they feel that the cost would outweigh the benefit to the community of having a lower building with reduced impact as well as less emissions exiting the building due to two levels being underground.

I-027-001

I-027-002

I-027-003

I-027-001

The pervious area of the SWSA, including enhanced landscaping with trees has been increased by approximately 6.1 acres compared to the 2007 Existing Condition for a total of approximately 7.7 acres site-wide. Please refer to Chapter 1, *Proposed SWSA Redevelopment Program* for a detailed description of the proposed landscaping.

I-027-002

The proposed program intends to utilized as much light colored pavement as possible to reduce heat island effect. There may be some use of asphalt for certain areas as dictated by technical requirements.

I-027-003

Chapter 1, *Proposed SWSA Redevelopment Program*, addresses the feasibility of below-grade parking levels for the Garage Structure.

I-027-004

- 5.) ****Building Enclosure/Filtration System** – This is the most important comment that I have. I strongly feel that CONRAC could provide a *net benefit* to the community if the structure was completely enclosed on all sides and a filtration system was installed to clean the air as it exits the building. The cold and warm starts, and acceleration and deceleration as the 6,000 cars drive around the garage, will produce immense amounts of concentrated pollution next to a residential neighborhood. Massport has refused to study the cost of enclosing the building and adding a filtration system. I would like them to study the cost and explain to you and the community why they feel the cost would outweigh the benefit of eliminating exhaust from 6,000 cars in the community. East Boston has abnormally high levels of asthma, cancer, and other diseases which can be caused by pollution. Instead of harming the community, CONRAC could become a beneficial project that would directly improve the health of all residents.

Massport has stated that their revised proposal reduces the number of cold starts and therefore they do not need to enclose the building. Although this is surely true to some extent, I believe they have exaggerated the reduction in cold starts and regardless, there will certainly be a lot of pollution from warm starts and the acceleration and deceleration of the cars. If they enclosed the building, I would support *increasing* the number of cold starts and even increasing the number of total cars (rental or commercial) in the facility because it would reduce the total number of cars in other parking lots that are exposed to the open air.

If you find that Massport is justified in refusing to enclose the building, then I would request that the building be enclosed on *at least* two sides (the sides facing the community) and that the buffer "sink" zone be significantly improved to capture more pollution.

I-027-005

- 6.) **Taxi Pool** – Massport must immediately put an end to any idling in the taxi pool and the limo pools. They have admitted that they haven't enforced existing rules to limit idling and have suggested that they do not know how to enforce the rule. These lots are open to the community and there should be no idling whatsoever. They can banish taxis who idle or send them to the end of the waiting line so that they have a financial incentive to not idle.
- 7.) **Ultra-fine Particulate Matter Study** – The community and elected officials successfully fought Massport's efforts to remove Logan Airport from the state-mandated ultra-fine particulate matter study of transportation nodes within a certain distance from residential areas that was included in the recent Transportation bill. At recent community meetings, Massport has said that CONRAC will not be part of the study and has refused to clearly state that they will abide by the law and actually study the particulate matter around Logan Airport. The community feels that Massport has found a loophole that will allow them to opt out of the study. The high rates of disease in East Boston are likely to be somewhat affected by airport activities and we must find out whether this is true. Please make a condition of your approval of the CONRAC facility that Massport must conduct a particulate matter study of the project as well as agree to perform a study for the entire airport operations.

I-027-004

Please refer to Chapter 4, *Air Quality and Noise*, for consideration of an enclosed Garage Structure.

I-027-005

In accordance with Massachusetts General Law, the anti-idling law (MGL, Chapter 111, Sections 142A - 142M), Massport will post 'no idling' signs throughout the SWSA. The Massport Ground Transportation Unit actively enforces the 5-minute idling law and issues citations to violators.

I am not opposed to the CONRAC project in theory, but there are several ways that it could be improved and most importantly there is a way to make this project a turning point in Massport's relations with the community if they are able to enclose the building and clean the air so that it actually benefits the community overall. I would encourage you to support the community in improving our air quality through your review of this project.

If you have any questions, I can be reached anytime at (617) 416-2923.

Sincerely,

James W. Bowen

Canaday, Anne (EEA)

From: EastieGails@aol.com
 Sent: Monday, December 14, 2009 2:09 PM
 To: Canaday, Anne (ENV)
 Subject: EOE #14137

Dear Ms. Canaday:

Having reviewed the above project, I am submitting my comments as follows:

Air Quality:

A recent study from UCLA (at Santa Monica) with a view toward the particulate/fine particulate matter impacts shows the harmful effects of airport related activities within close confines of a neighborhood, even within the 1,000 feet measure. To suggest that this garage has been moved 500 feet from the neighborhood is negligible given this study's conclusions. This study is a first, we believe, in illustrating the very harmful effects of particulate and fine particulate matter.

There is no commitment of Massport in proposing this project to engage in with the Massachusetts Department of Public Health to complete its study of surrounding areas measuring the respiratory and cardiovascular impacts. The MDPH needs approximately \$100,000-\$200,000 only to complete its study.

With regard to the recently passed Transportation Bill in the legislature, Massport should be mandated to include this project into its study of particulate and fine particulate matter.

I-028-001 I do not see in this Notice of Project Change any real discussion of alternative sites considered for the project that will obviously lessen impacts to the Maverick Street neighborhood. Isn't this mandated by MEPA?

The taxi pool's location is most offensive, butting this area alongside the playing fields. Taxi pools are notorious for idling and Massport by its own admission **has not** been effective in enforcing idling within its confines.

I-028-002 To suggest that the air quality of this neighborhood will not be impacted is to suggest not an ounce of logic. Of course, we are going to be impacting this neighborhood **by the introduction totally of about 32,7000 vehicle trips daily**. How will this not impact the air quality? Why do we allow measuring only a single project such as this for air quality against the backdrop of cumulative effects within an entire airport? Again, this defies logic.

I-028-003 Lastly, the central parking garage is a perfect example of the fumes realized with a structure such as this. On any given day, even a cold day, the emissions are greatly noticed. How will that be acceptable to the Maverick Street neighborhood and the playing fields?

Mitigation of project:**I-028-001**

Chapter 1, *Proposed SWSA Redevelopment Program*, re-evaluates on-airport site alternatives in light of the reduced program, as presented in the 2009 NPC and herein. The Garage Structure has been reduced in both height and size, and has been relocated farther away from the nearby residential community. However, each of the other program elements—apart from additional commercial parking within the Garage Structure—has been retained in the revised Program. In addition, the Bus and Limousine Pools, which were to be relocated to the North Service Area under the Draft EIR/EA Program, have been retained within the SWSA as part of the revised Program. Even without considering landscaping and pervious areas, some of which would be required to satisfy applicable environmental standards and community concerns under any circumstances, the Program presently requires more than 41 acres of pervious surfaces to efficiently operate, serve the airport, and serve the rental car companies and customers. At least some of the additional 6.1 acres of landscaped and pervious areas proposed as part of the Program would remain necessary to meet environmental and community concerns no matter where on-airport the revised Program was to be located. Therefore, unless the Garage Structure was revised to be taller and far more massive, over 45 acres of land would be necessary to accommodate the Program no matter where on-airport the revised Program was to be located. As shown on Table 1-2, *Rental Car and Parking Planning Alternatives*, the SWSA remains the only on-airport parcel of sufficient size. The other possible on-airport site locations are all too small.

In many cases, those other airport parcels are already being used for other essential airport functions which cannot be displaced, or are under planning consideration for such uses in the future, and thus are not reasonably available to serve the revised Program.

Even more importantly than SWSA's appropriate size and availability for

Some proposals have been submitted which would indicate that to truly offer some buffer againsts the impacts of projects alongside the neighborhood, a green buffer could be implemented, thereby taking all of the operational impacts from the airport into the middle of the airport. These will be illustrated in a "thinking outside the box" approach submitted by Wig Zamore, which concepts I wholeheartedly endorse. This would be considered a **win/win**, especially for the severely impacted Maverick Street neighborhood. The small, green airport buffer that Massport has been floating does little to buffer these impacts. Visually, it's appealing, that's all. There never has been any mechanism within their airport buffer to lessen impacts to air quality. To propose lessening air quality impacts with landscaping would necessitate at least 25 trees per person to begin.

Structure:

I-028-004 For the neighborhood not to realize the fumes and degradation to air quality, the structure should be closed in on all sides, with an air filtration system that will not allow for emissions to seep out from the structure. Depressing the building is also another way to encapsulate these emissions. Massachusetts General Hospital has within the Yawkey Building an underground garage that must have about 6-8 floors. When considering cost I don't believe the neighborhoods should suffer as a result of a cost consideration.

Since the proposal is albeit camouflaged as smaller, then there should be discussion about even putting the garage within the confines of the existing central garage with added floors. The mechanics of servicing the vehicles could ultimately be placed in the north service area as there is largescale space to be considered there.

Should the garage remain where proposed, then the construction should have a green roof application, much like we see in New York City atop highrises. This could surely help filter these noxious fumes.

Water:

I-028-005 Any water being proposed for the washing of vehicles should be recycled to lessen the usage of it.

Surface roads:

I-028-006 Any and all asphaltting of the roadway should be colored and/or patterned to lessen the heat of the surface areas.

Alternative energy:

I-028-007 Any energy needed for the facility should be mandated to embrace all alternatives, especially wind turbines in addition to solar applications.

Community Consultant:

In the spirit of the Master Plan of 1976 and for all intents and purposes still in effect, the community under the umbrella of Air, Inc. should be afforded a consultant to decipher true impacts proposed within the ConRac Notice of Project Change. Massport, eagerly wanting to take down the Blast

use, however, is the SWSA's excellent proximity to the key airport roadways which provide efficient access not only to the airport terminals but also to the regional highway system. The SWSA's uniquely superior access characteristics will allow the proposed Unified Bus System to improve air quality while providing convenient access to and from the MBTA Airport Station, the airport terminals, and the consolidated rental car operations. Any other airport location considered for the revised Program would make the Unified Bus System less efficient, and would likewise unnecessarily drive up Vehicle Miles Travelled by airport users.

I-028-002

Chapter 4, *Air Quality and Noise*, contains the updated air quality assessments for the Program. Included are the results from the regional emissions inventory which are used to compare the project-related emissions to pre-established *de-minimis* levels - signifying that in combination with all other emissions in the region are not significant. Also included are the results from the dispersion modeling which took into account other emission sources through the application of "background" concentrations.

I-028-003

Chapter 4, *Air Quality and Noise*, describes the study area of the air quality analysis, which extends into the Maverick Street neighborhood and nearby playing fields.

I-028-004

Please refer to Chapter 4, *Air Quality and Noise*, for consideration of an enclosed Garage Structure.

I-028-005

As discussed in Chapter 5, *Drainage and Wastewater*, a portion of the car washing water flow will continue to be recycled/reused.

Fence, afforded a consultant to review that project. Hence, because of the magnitude of this project, one would be warranted.

Funding sources:

While this is not perhaps within the review of the MEPA office, funding for this project should not be derived from Stimulus Monies, as our understanding is that projects receiving Stimulus Monies should be used for true public transportation benefits.

I look forward to our Environmental Secretary's support of the neighborhoods.

Regards,

Gail C. Miller
232 Orient Avenue
East Boston, MA 02128

I-028-006

The Program intends to utilize as much light colored pavement as possible to reduce heat island effect. There may be some use of asphalt as the technical requirements dictate.

I-028-007

As discussed in Chapter 2, *Sustainable Design and Greenhouse Gas Emissions Assessment*, Massport is committed to providing on-site renewable energy. Based on the evaluation done by the design team (summarized in Chapter 2), solar and/or wind sources would be most cost-effective for the Program.



Budget



AC



October 29, 2009

Secretary Ian A. Bowles
Executive Office of Energy and Environmental Affairs
Attn: Anne Canaday, MEPA Office - EEA No. 14137
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114



Re: **Notice of Project Change** : Southwest Service Area Redevelopment Program at Boston-Logan International Airport, East Boston, MA - EEA No. 14137

Dear Secretary Bowles:

On behalf of the rental car companies serving Boston-Logan International Airport (Logan Airport), we submit the following comments on the October 2009 Notice of Project Change (NPC) for the Southwest Service Area Redevelopment Program (SWSA) at Logan Airport located in East Boston, Massachusetts.

As representatives of the rental car companies, we have continued to coordinate closely with the Massachusetts Port Authority (Massport) to replace and upgrade existing car rental and ground transportation facilities in the SWSA. The revised Consolidated Rental Car (ConRAC) Program continues the Logan Airport rental car companies' and Massport's ongoing commitment to create customer, environmentally- and operationally-efficient facilities at Logan Airport. As previously described in the Draft EIR/EA, we continue to support the redevelopment of the SWSA with the ConRAC as the current rental car operational configuration at Logan Airport is inefficient and does not meet our future needs.

We believe the proposed ConRAC offers the best opportunity to enhance our ability to manage our businesses in a sustainable manner at Logan while reducing current and future impacts on our neighbors and the surrounding community. A variety of sustainable initiatives are currently in practice at some of our other on-airport locations and many of those initiatives can be expanded or implemented at Logan with a new state-of-the-art facility. These initiatives include: expanded availability of hybrid or flexible fuel vehicles; recycling of water within car wash systems; recycling of all maintenance related fluids; corporate sponsored programs for carbon offsets; and donations to local communities to offset impacts of carbon emissions. We believe that the redevelopment of the SWSA will allow greater opportunities for the rental car industry to incorporate these and other programs into our local business practices and we are committed to identifying, evaluating and subsequently adopting any feasible measures that will support Massport's and the Commonwealth's sustainability goals. A new ConRAC building built to LEED standards will also offer excellent opportunities for us to reduce energy utilization, incorporate innovative renewable energy sources into our daily operations and dramatically reduce emissions associated with the rental car busing operations.

We look forward to continuing to work with Massport, state and local agencies and the public as the design and environmental review process moves forward.

Sincerely,

Robert Bouta
Avis Budget Group

Steve Bradway
Enterprise Rent-A-Car Company of Boston, LLC

Scott Plueger
The Hertz Corporation

John BalMore
Dollar Rent A Car

Joe Oliveira
Dollar Thrifty Automotive Group

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Vanguard Car Rental USA, LLC d/b/a National & Alamo

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Thank you for your comment.

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IN ASSOCIATION WITH:

PGAL/PB Planning Collaborative – Lead Designer/Civil/Structural/MEP/Geotechnical Engineer

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KB Environmental, Inc. – Air Quality Consultant

Brown Richardson & Rowe, Inc. – Landscape Architect

Goody Clancy – Urban Planning Consultant

BVM Engineering, Inc. – Sustainable Design/LEED® Consultant